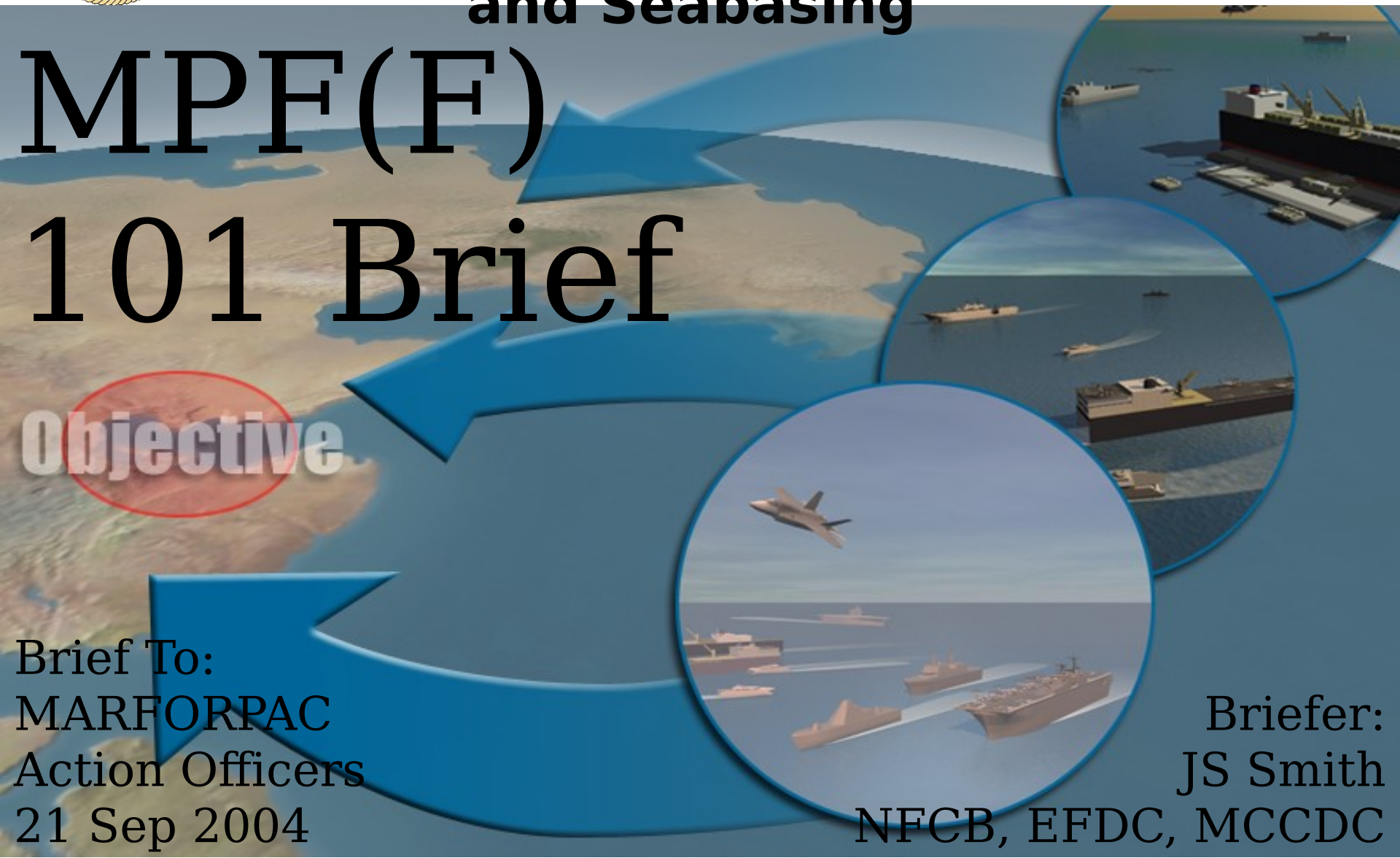
UNCLASSIFIED

Marine Corps Transformational Concepts and Seabasing

MPF(F) 101 Brief



Brief To:
MARFORPAC
Action Officers
21 Sep 2004

Briefer:
JS Smith
NFCB, EFDC, MCCDC

Purpose/Agenda

Purpose:

- **Provide an MPF(F)/Seabasing Overview**

Agenda:

- **MPF/MPF(E)/MPF(F)**
- **MPF(F) Operational Concept & Capabilities**
- **MPF(F) and Seabasing**
- **What is a MEB?**
- **MPF(F) Requirements Matrix**
- **Other Interesting Things**

Agenda

- **MPF/MPF(E)/MPF(F)**
- MPF(F) Operational Concept & Capabilities
- MPF(F) and Sea Basing
- What is a MEB?
- MPF(F) Requirements Matrix
- Other Interesting Things

MPF/MPF(E)/MPF(F)

Past

- Operational Capabilit
- Forward Presence
- 13 Ships in 3 Squadr
- Each Squadron suppo

MEB of 14,400+ Marines

- Proven Force Enabler

Present

- MPF Enhancement
  - 3 additional Ships (1 per sqdn)
  - Additional Capabilities:
    - Naval Mobile Constr. Bn
    - Naval Fleet Hospital
    - Expeditionary Airfield

Future

MPF Future (2010 and Beyon

- Seabasing

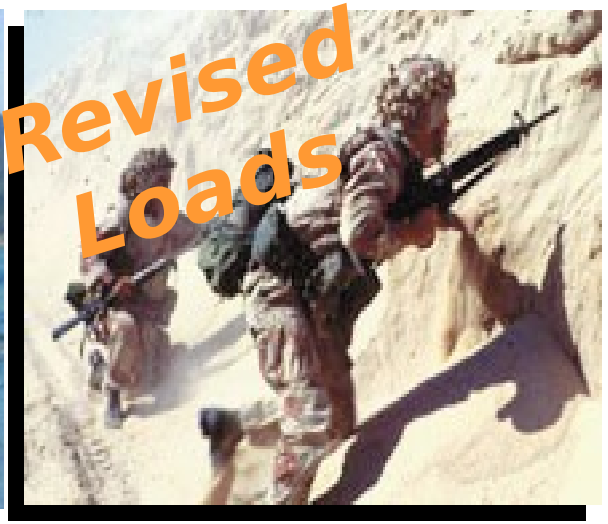
Current MPF Offload

MPF Components

Maritime Prepositioning Force

Force Construct Remains the Same as MPF except:

MPS Squadrons Navy Support

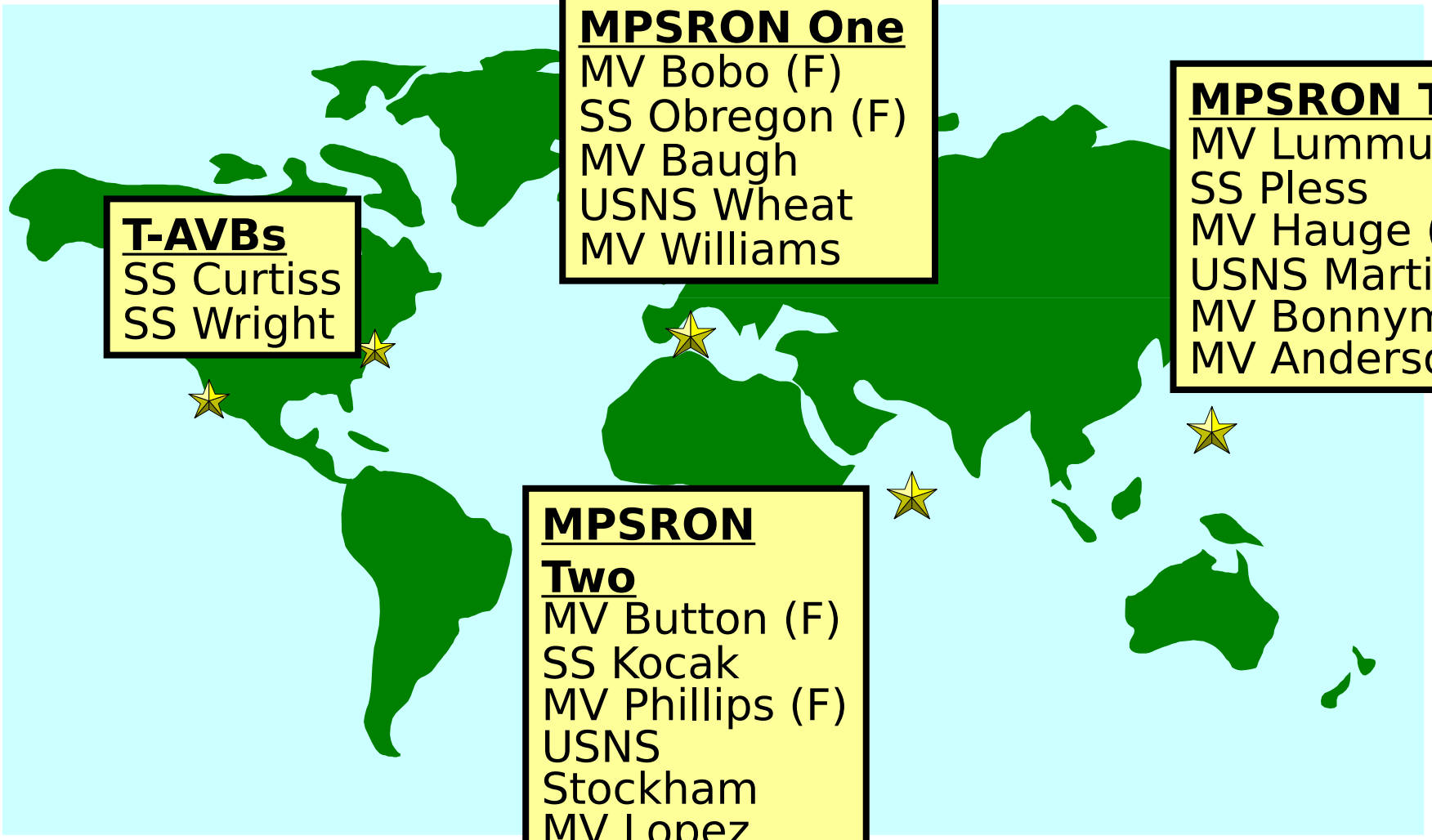


MPSRON 1: Mediterranean
MPSRON 2: Diego Garcia
MPSRON 3: Guam / Saipan

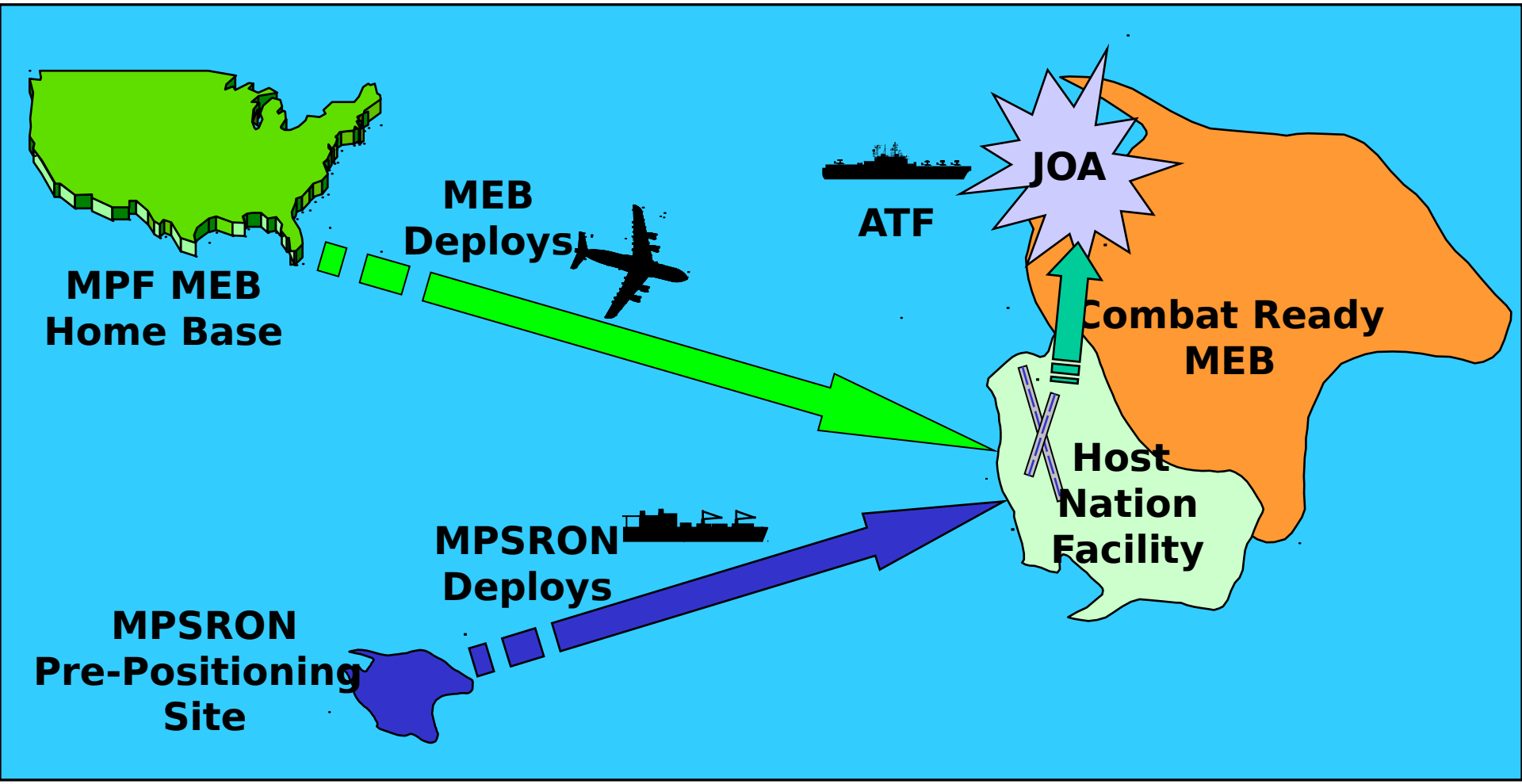
Naval Beach Group
Cargo Handling Battalion
Tactical Air Control Sqdn

CE
GCE
ACE
CSSE/NMCB

Current MPF Squadrons



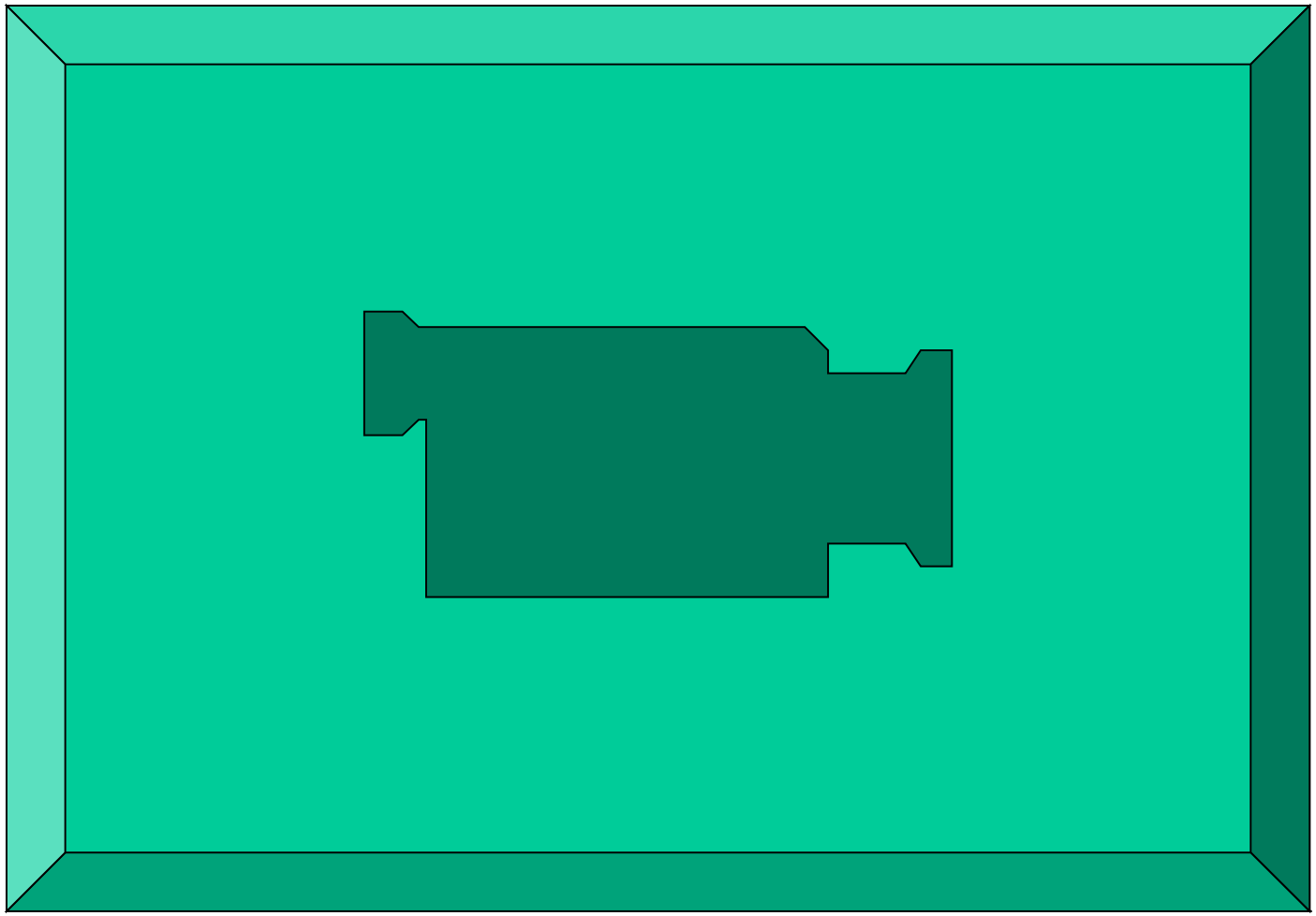
Current Employment Scenario



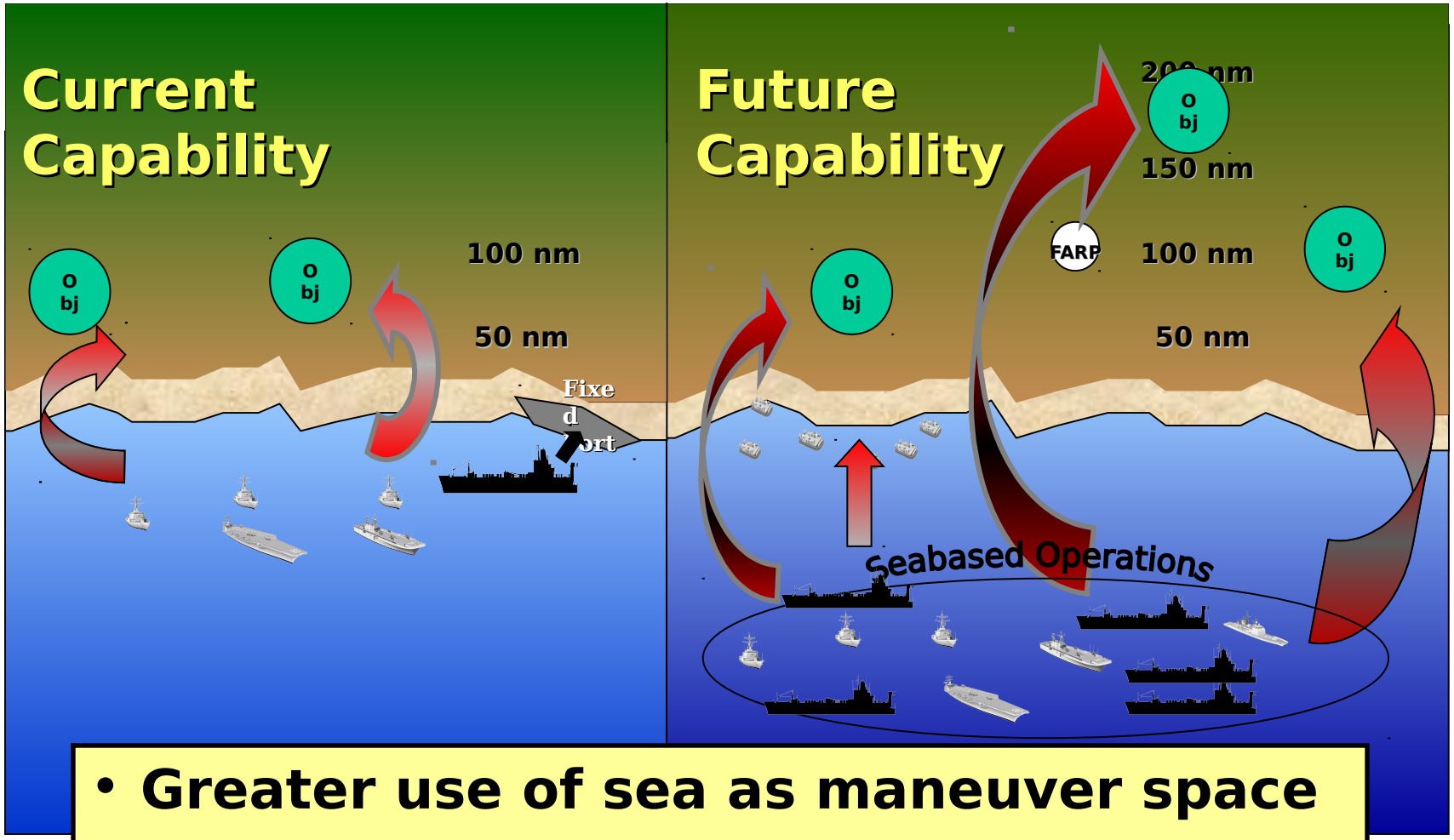
The Future:

“Joint Forcible Entry Operations”

JFEO VIDEO



Rapid, Joint Forcible Entry



- Greater use of sea as maneuver space
- Greater speed and operational reach
- Faster closure and initiation of Joint

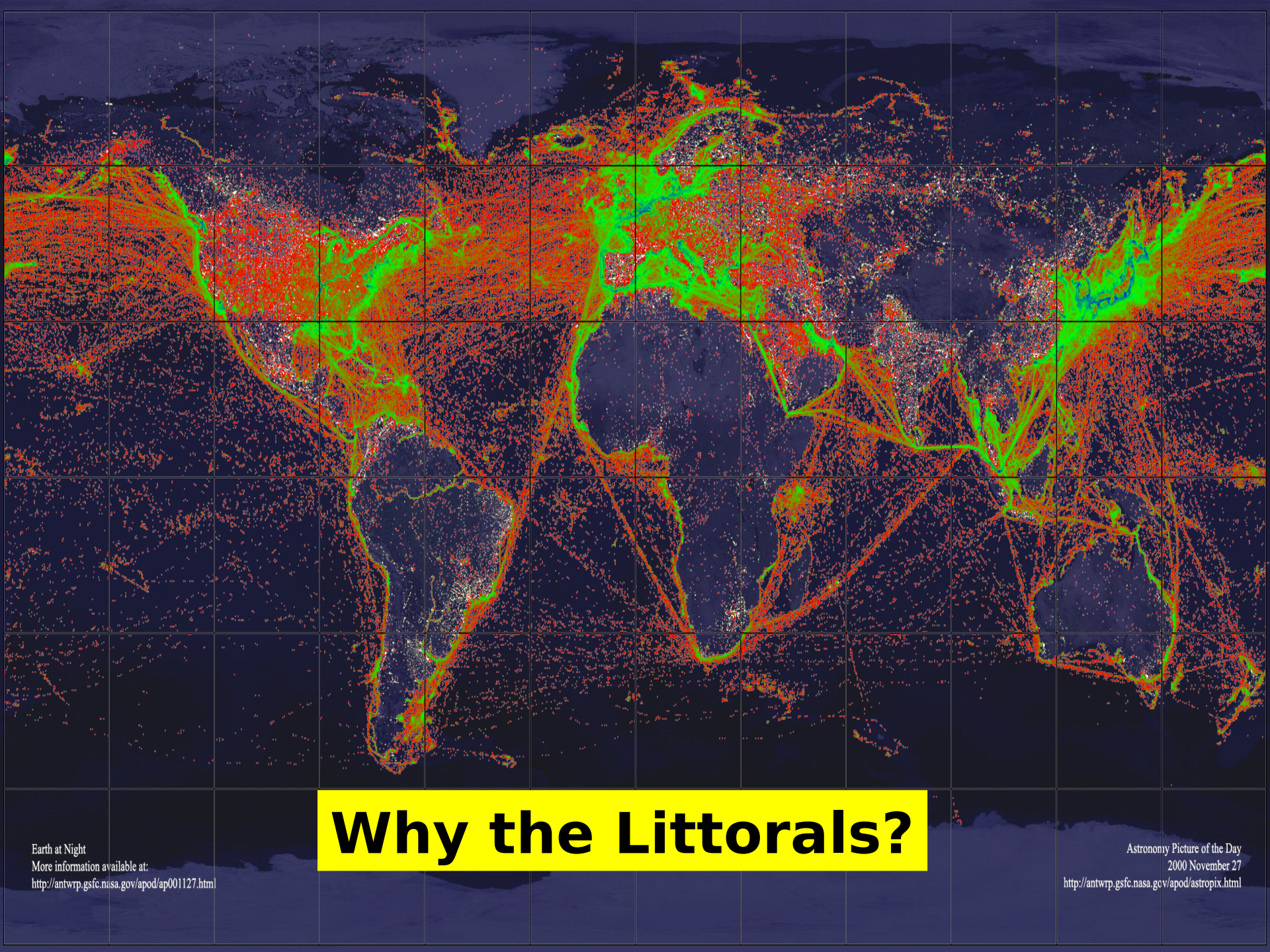
Concepts: Operational Maneuver Creates a Dilemma

Dispersed forces dissipate enemy combat power, leaving him vulnerable to defeat in detail

Concentrated forces create exploitable gaps in an adversary's defensive network, providing lucrative targets for joint fires and maneuver

Enemy Dispersed

Enemy Concentrated


Why the Littorals?
Earth at Night
More information available at:
http://antwrp.gsfc.nasa.gov/apod/ap001127.html
Astronomy Picture of the Day
2000 November 27
http://antwrp.gsfc.nasa.gov/apod/astropix.html

Agenda

- MPF/MPF(E)/MPF(F)
- **MPF(F) Operational Concept & Capabilities**
- MPF(F) and Sea Basing
- What is a MEB?
- MPF(F) Requirements Matrix
- Other Interesting Things

MPF (Future)

- **Means for conducting and/or supporting Expeditionary Maneuver Warfare (EMW) from a Sea Base consisting of ships which have prepositioned USMC equipment and supplies on them.**
- **Scalable Capabilities:**
  - **"Force Closure" of personnel/aircraft**
    - **Air/surface interface, personnel billeting, support facilities**
  - **"ATF Interoperability"**
  - **"Sustainment" (conduit for log support, maintenance, selective offload)**
  - **"Reconstitution and Redeployment"**
- **Characteristics:**
  - **Support Rotary Wing (RW) and Tilt Rotor (TR) Aviation**
  - **Support Over-The-Horizon (OTH) surface lighterage**
  - **Support skin to skin cargo transfer**

Seabasing
Delivering the Capability

HSS, Strat Air, CRAF

CONUS

Various Air and Surface Connectors

Advanced Base

High Speed Sealift

High Speed Connector

Sea Shield

Maneuver

Sea Base

MPG

OBJ

Reconstitute

Sea Strike

High Speed Sealift, Connectors, LHA (R) Flight 0/1, and MPF(F) acquisition programs are inherently linked to delivering

MPF Employment Time Line

Survey Liaison Recon Party

Deploy

~~Prepare Port~~

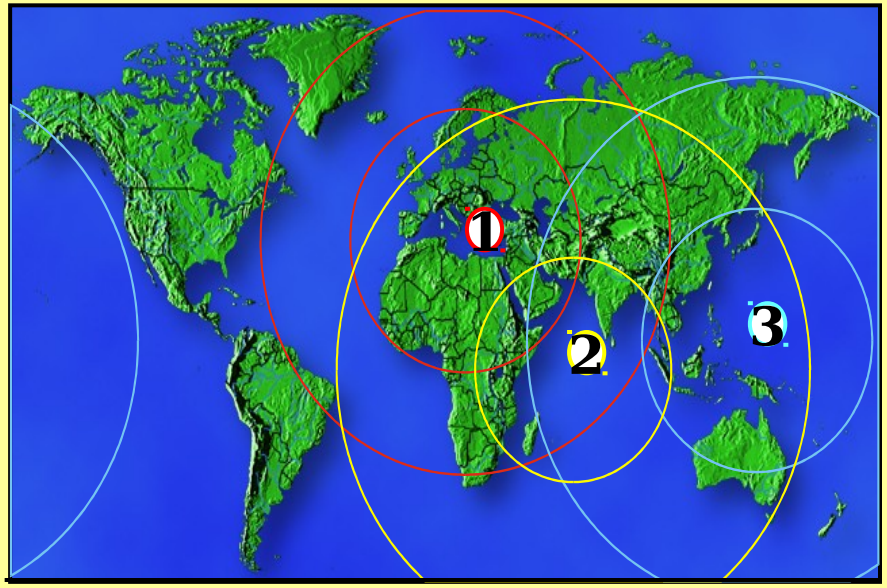
Offload Preparation Party

Deploy

~~Prepare~~ Cargo

Advance Party

Deploy



Ships

Transit

~~Offload~~

0

7

10

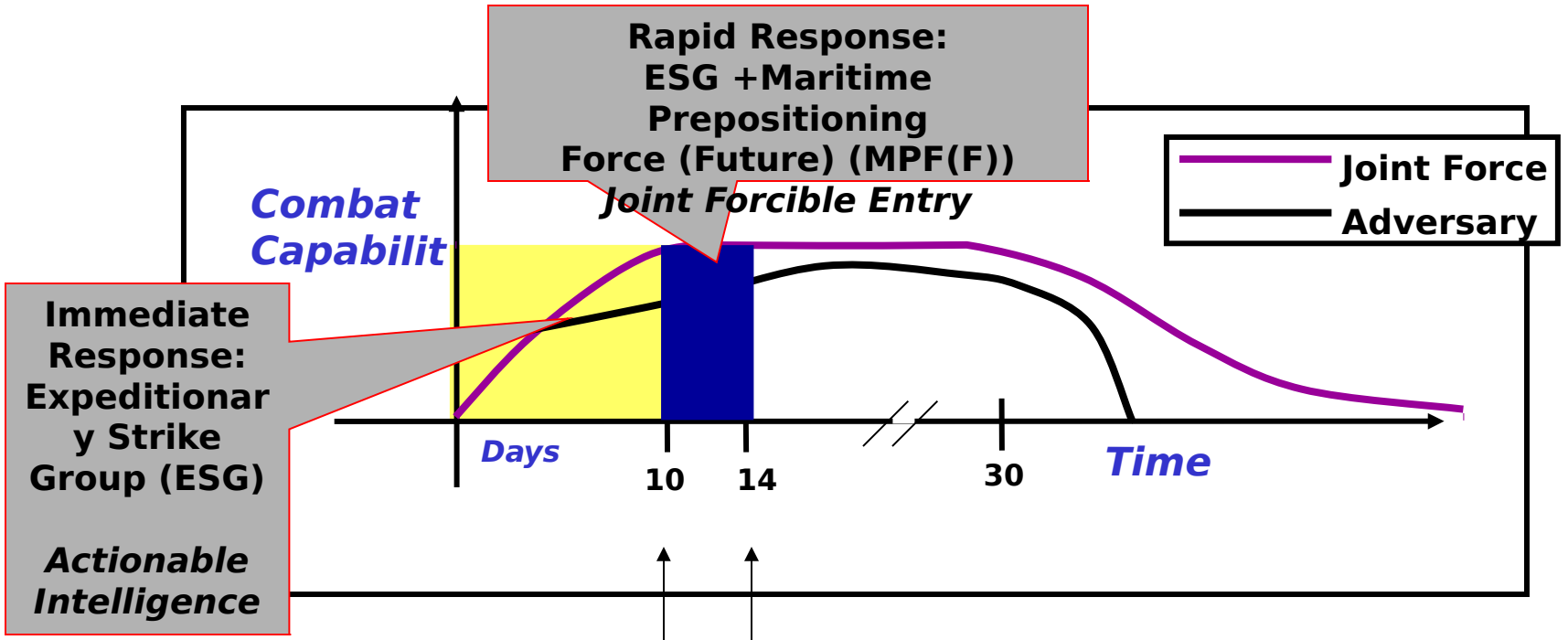
Main Body

Deploy / At-Sea Arrival

Fully Operational

0 2 4 6 7 8 10 12 14 16 17 18

JFEO Employability Timeline



MROC Recommendation:

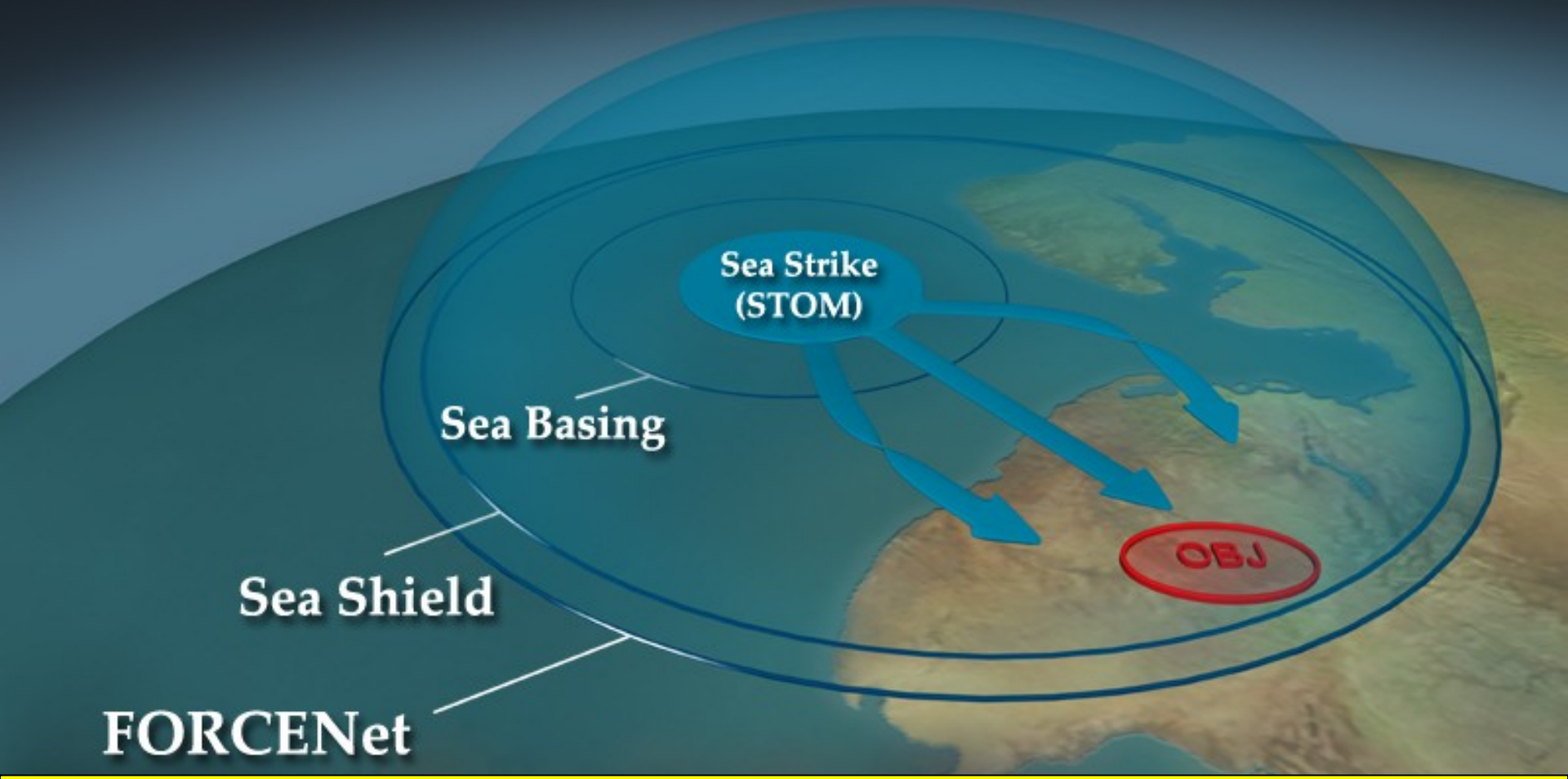
- Objective:
  - 10 Days — Threshold 14 Days

Seize the Initiative – Gain and Maintain Access – Alter Initial Conditions of Conflict

Agenda

- MPF/MPF(E)/MPF(F)
- MPF(F) Operational Concept & Capabilities
- **MPF(F) and Sea Basing**
- What is a MEB?
- MPF(F) Requirements Matrix
- Other Interesting Things

Naval Power 21



Project Offense, Project Defense, Exploit

Seabasing

- Joint Force Options from the Freedom of the Seas
- Reduced Dependence on Vulnerable Landbases
- Economical Forward Presence
- Phased At-Sea Arrival and Assembly, Selective Offload, and Projection of a MEB-sized Force within as few as 7 Days
- Supporting the Joint Fight
  - Advance Force Ops
  - SOF Support
  - Joint Sustainment
  - Joint C4ISR
  - Forward Aviation

Cornerstone Of Marine Corps

Seabasing

Seabasing is the concepts and capabilities for exploiting our command of the sea to project, protect, and sustain integrated joint warfighting capabilities.

Seabasing is more than a location or a platform.

Expeditionary Strike Force

CSG

ESG

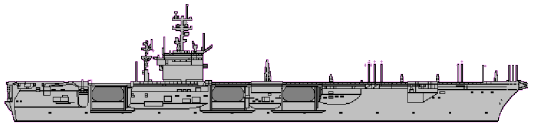
MPG

Expeditionary Strike Group

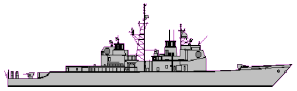
Maritime Prepositioning Group

CSG and ESG Composition

CARRIER STRIKE GROUP



AIRCRAFT CARRIER

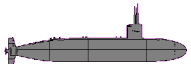


2 AEGIS CRUISERS

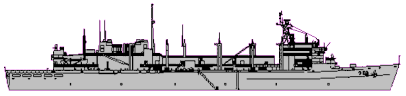
UP TO 3 AEGIS DESTROYERS

1 OR 2 DESTROYERS

A GUIDED MISSILE FRIGATE

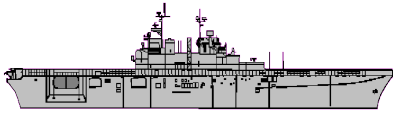


2 ATTACK SUBMARINES

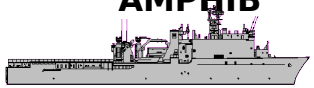


UNDERWAY REPLENISHMENT

EXPEDITIONARY STRIKE GROUP

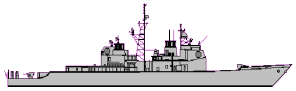


LARGE DECK AMPHIB



AMPHIBIOUS TRANSPORT

DOCK LANDING SHIP



AEGIS CRUISER

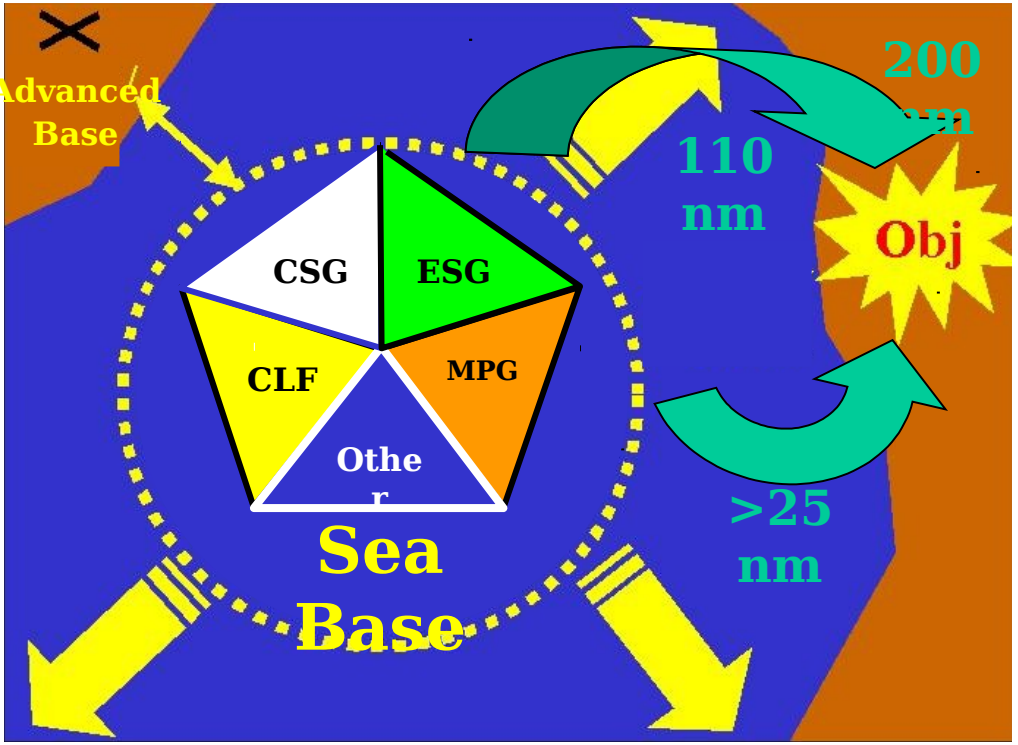
AEGIS DESTROYER

GUIDED MISSILE FRIGATE

ATTACK SUBMARINE

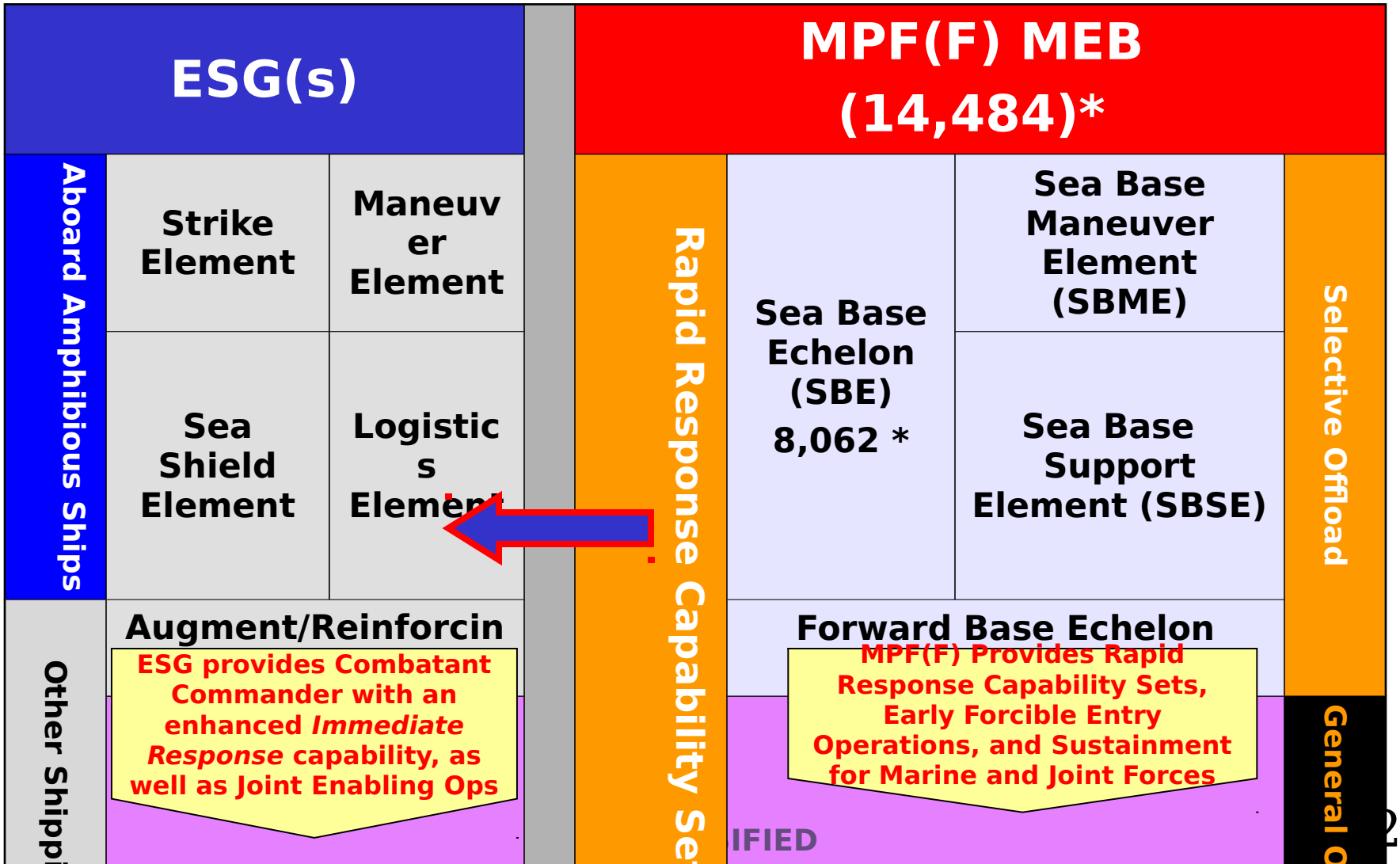
MPF(F) is Integral to Seabasing

- **MPG/MPF(F) is part of Joint Sea Base**
  - **Exact composition and purpose of Sea Base depends on METT-T**
  - **Combination of a range of naval assets operating offshore**
  - **Sea Base is located where tactically and operationally appropriate (e.g. MODLOC)**
  - **Proximate to theater Advanced Base**



Future Amphib/MPF(F) Synergy

2015 ESG and MPF(F) Synergy


ESG(s)
MPF(F) MEB (14,484)*
Aboard Amphibious Ships
Strike Element
Maneuver Element
Sea Shield Element
Logistics Element
Augment/Reinforcin
Other Shippi
Rapid Response Capability Se
Sea Base Echelon (SBE) 8,062 *
Sea Base Maneuver Element (SBME)
Sea Base Support Element (SBSE)
Forward Base Echelon
Selective Offload
General C
ESG provides Combatant Commander with an enhanced Immediate Response capability, as well as Joint Enabling Ops
MPF(F) Provides Rapid Response Capability Sets, Early Forcible Entry Operations, and Sustainment for Marine and Joint Forces

MEB Seabasing Base Case and Excursion Overview

<u>Purpose:</u> Explore synergism between the ESG and MPG in conducting the assaults

<u>Description:</u>

- Landed 1 BLT(-) Rein using only 1 ESG's lift assets
- Landed 1 BN (Rein) from the MPG using only MPG lift assets
- Landed 1 BLT(-) Rein and 1 BN (Rein) using MPG and 1 ESG's lift assets
- Landed 1 BLT (Rein) and 1 BN (Rein) using MPG and 2 ESGs' lift assets

Base Case

Alternatives* & Cases

* Note: options & ship types from EXCOM brief of 22 July 0

	MPF(F) Type 1	MPF(F) Type 2	Utility Cargo
Option 2	(3) 5.2.1 AV	(6) 5.2.6 Log/RORO	1
Option 1	(9) 5.1.3A Dist		1
Option 3	(4) LHA(R) Flt 0 Lite	(4) 5.2.6 Log/RORO	2
Option 5	(3) 5.2.1 AV	(7) 5.2.5 Log/RORO	2
Other Options:			
- Option 3 with LHD Repeat Lite in place of LHA(R) Flt 0 Lite			
- Fiscally constrained options with increased utility cargo ships			

Analyze 3 cases for each of 4 options

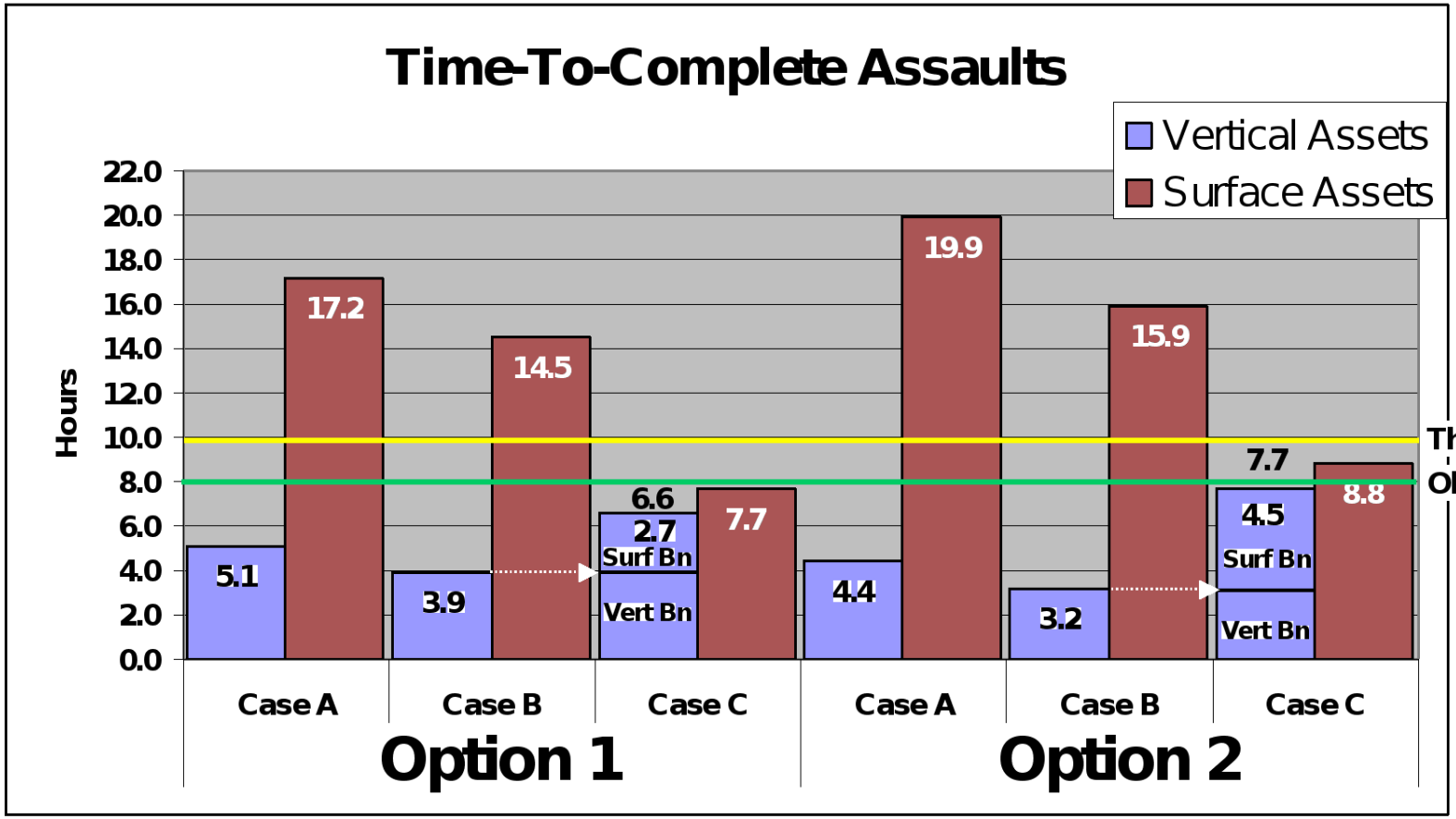
3 Cases:

A. Without ESG Assets

B. With ESG Assets

C. Combined Air/Surf Landing w/ ESG Assets

Force Projection Analysis Emerging Results



Option 1 Case C only configuration that attains the objective

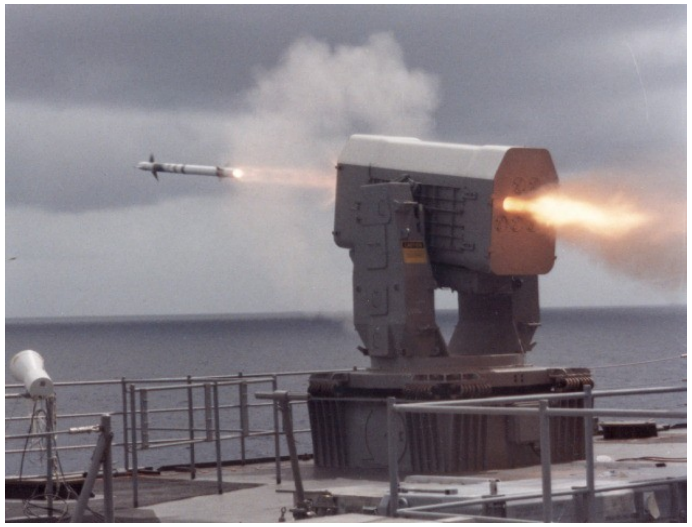
Option 1 is 9 ship/Distributed

Option 2 is 3 Aviation ships and 6 Log/RORO

Sea Shield

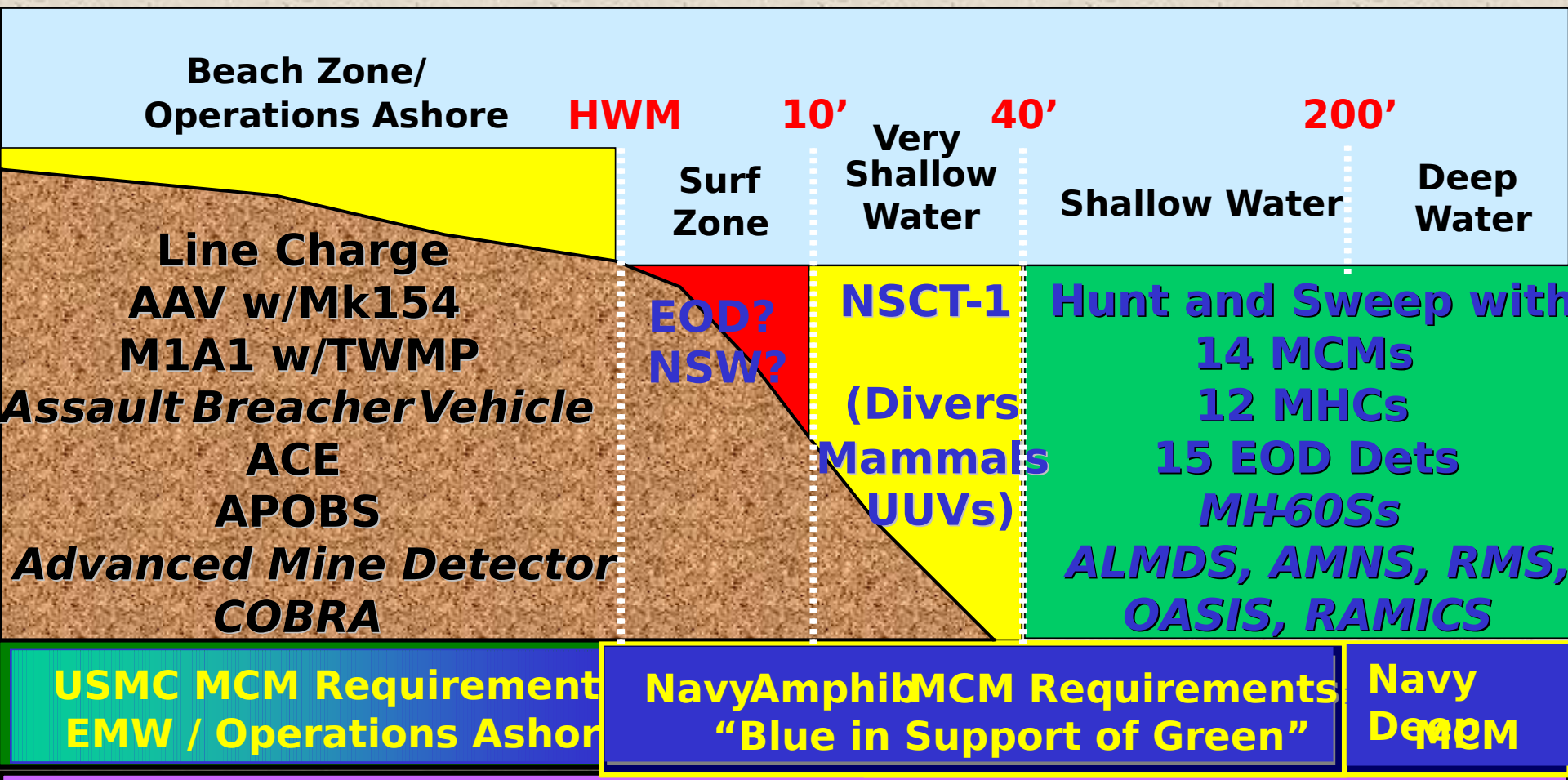
Sea Shield plays a critical role in MPG operations in high threat areas

Point Defense



UNCLASSIFIED

Naval MCM Responsibilities and Capabilities



Marine Mammals

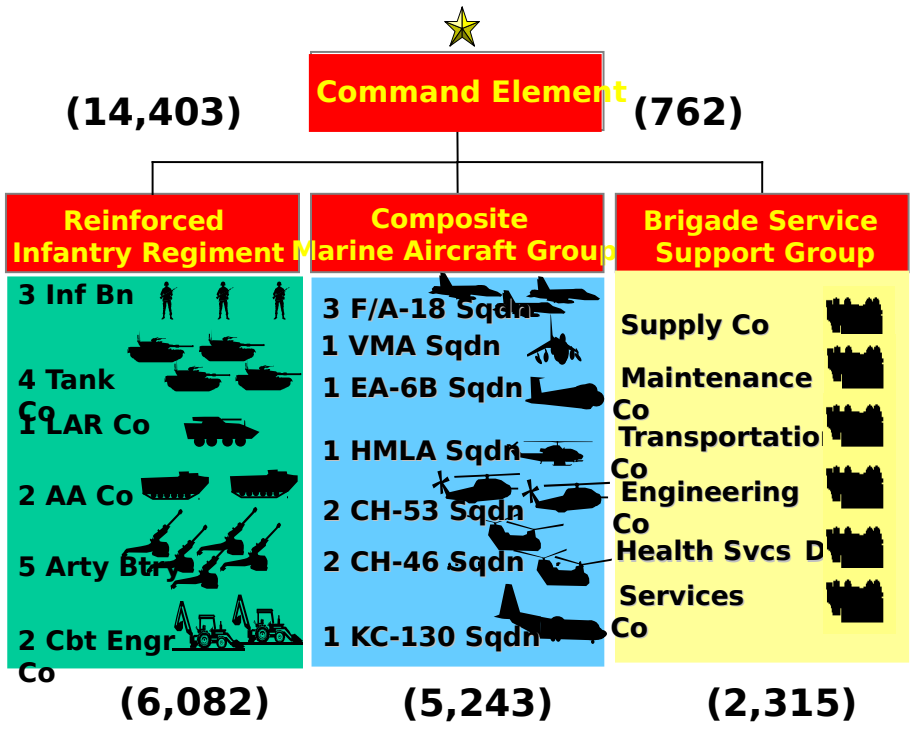
WHISKERS – THE AMAZING DE-MINING KITTEN

Agenda

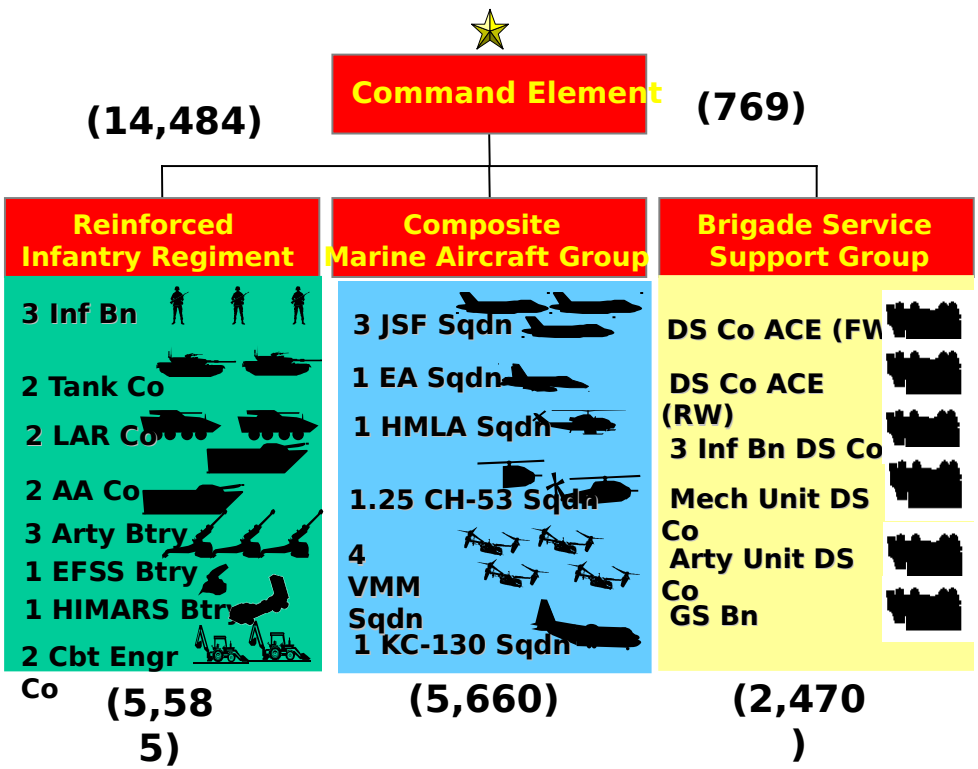
- MPF/MPF(E)/MPF(F)
- MPF(F) Operational Concept & Capabilities
- MPF(F) and Sea Basing
- **What is a MEB?**
- MPF(F) Requirements Matrix
- Other Interesting Things

MEB Comparison

Current MEB Organization MCBul 3501

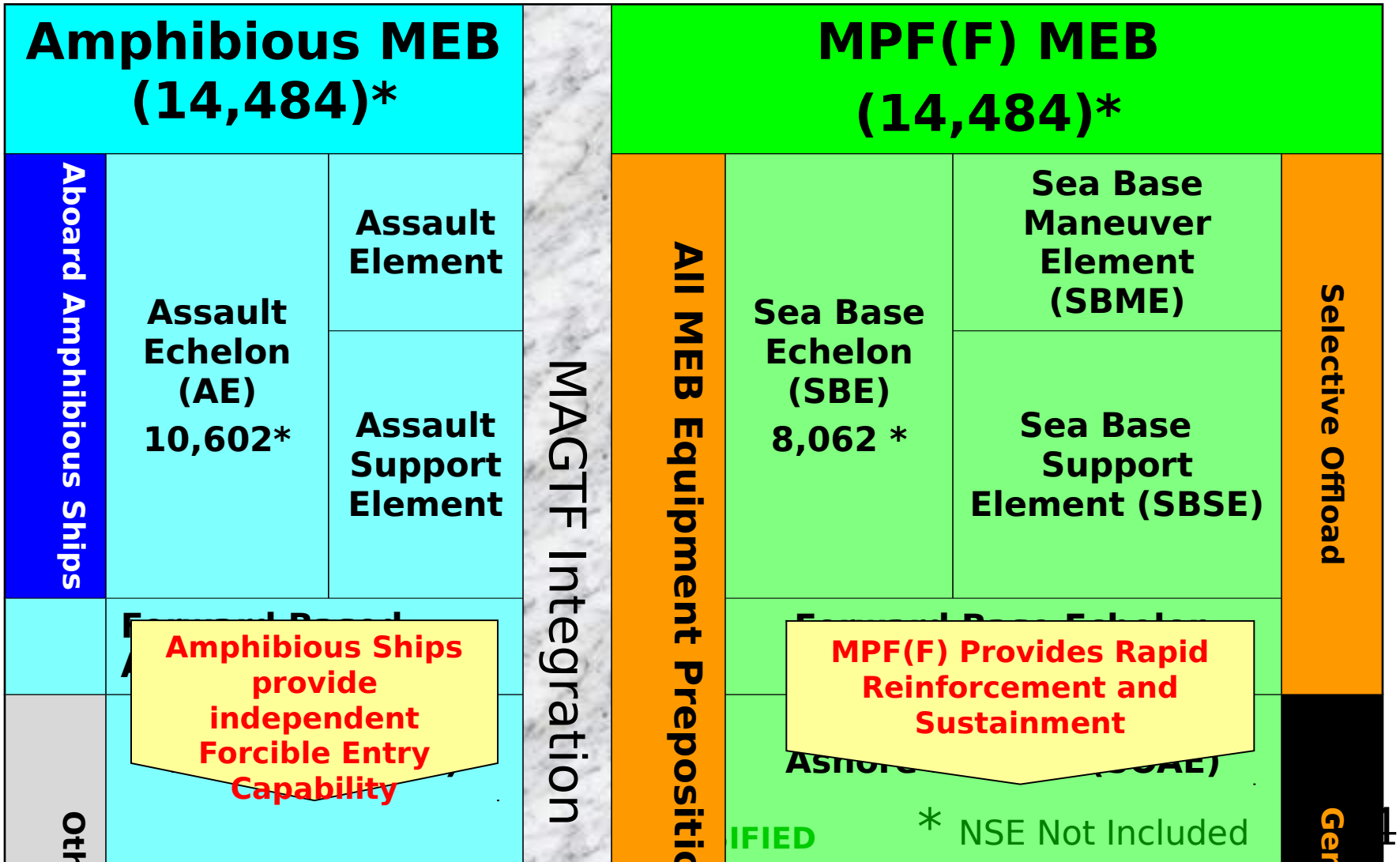


2015 Baseline MEB Organization



2015 Baseline MEB

Organization for Deployment and Employment



2015 MEB MPF(F) Update

Organization for Deployment and Employment

Function: Forces to conduct OMFTS/STOM operations by maneuvering from seabase

Personnel: 4,859

Composition:

2 X Battalion Task Forces (Surface)

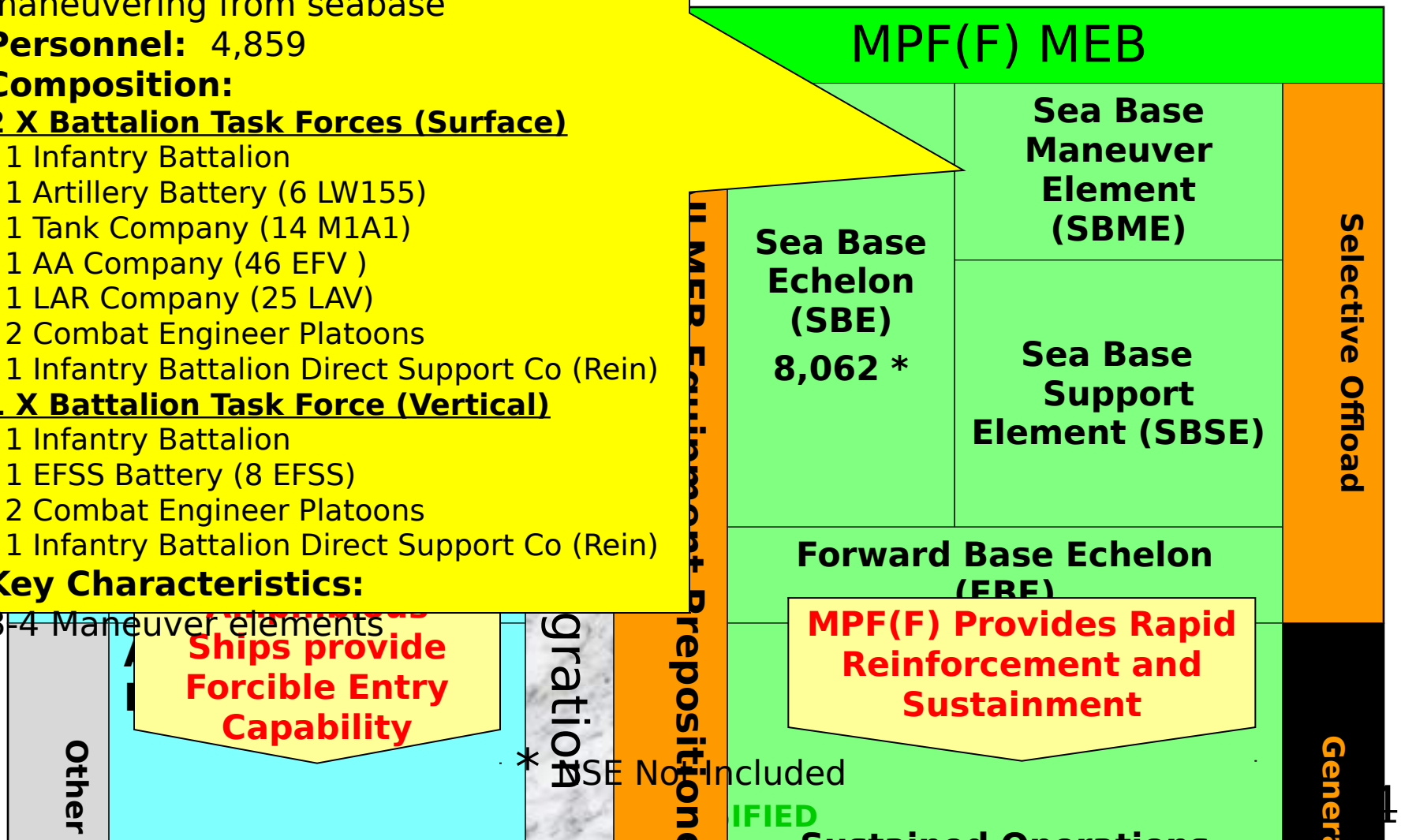
- 1 Infantry Battalion
- 1 Artillery Battery (6 LW155)
- 1 Tank Company (14 M1A1)
- 1 AA Company (46 EFV)
- 1 LAR Company (25 LAV)
- 2 Combat Engineer Platoons
- 1 Infantry Battalion Direct Support Co (Rein)

1 X Battalion Task Force (Vertical)

- 1 Infantry Battalion
- 1 EFSS Battery (8 EFSS)
- 2 Combat Engineer Platoons
- 1 Infantry Battalion Direct Support Co (Rein)

Key Characteristics:

3-4 Maneuver elements



2015 MEB MPF(F) Update

Organization for Deployment and Employment

Function: Provide seabased support (command and control, aviation, logistics and base support) to maneuver units conducting STOM/OMFTS operations ashore

Personnel: 3,203

Composition:

MEB CE

GCE Support elements (Regt CP)

ACE

- RW MAG with 101 aircraft

-- 48 MV-22

-- 18 AH-1

-- 9 UH-1

-- 20 CH-53X

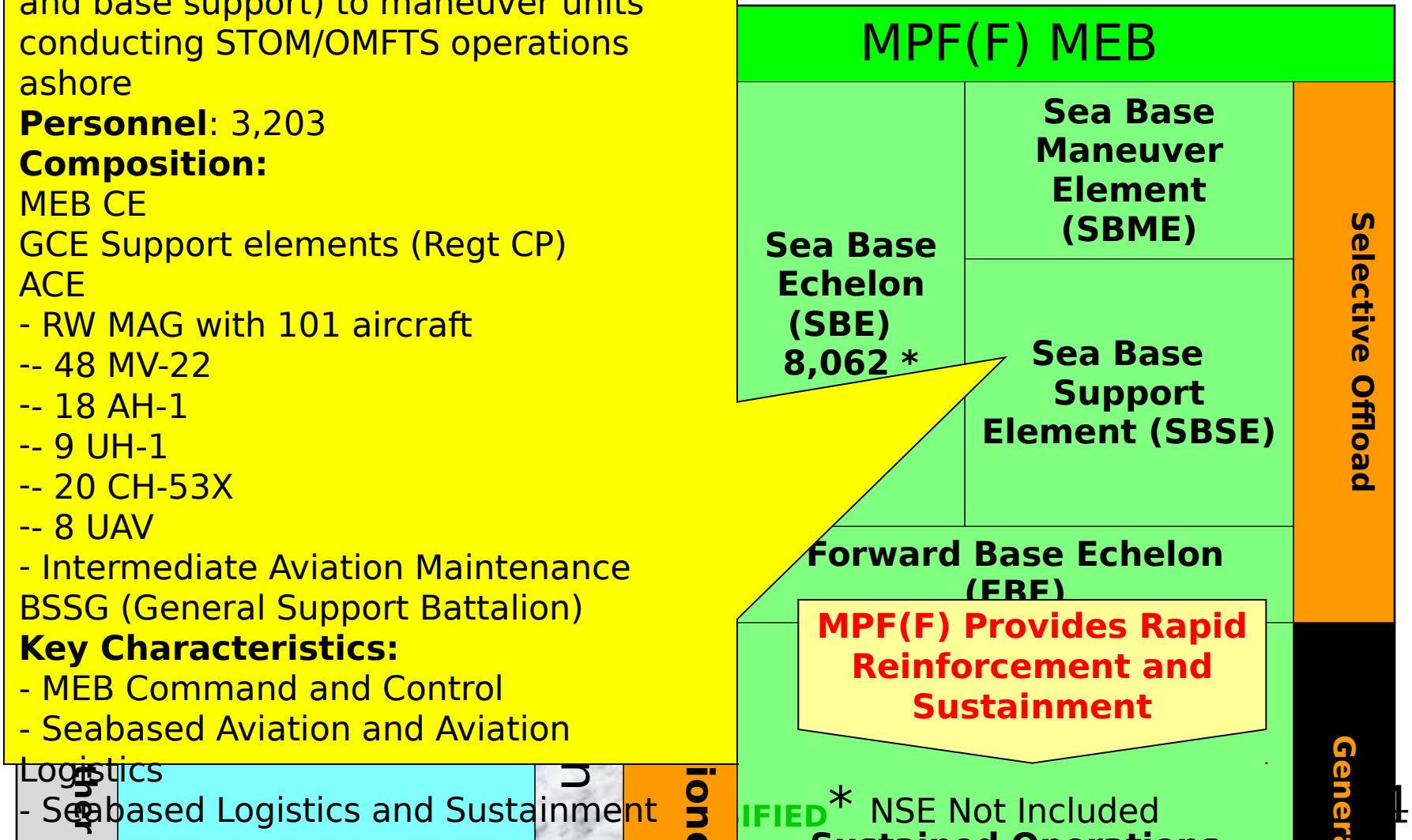
-- 8 UAV

- Intermediate Aviation Maintenance

BSSG (General Support Battalion)

Key Characteristics:

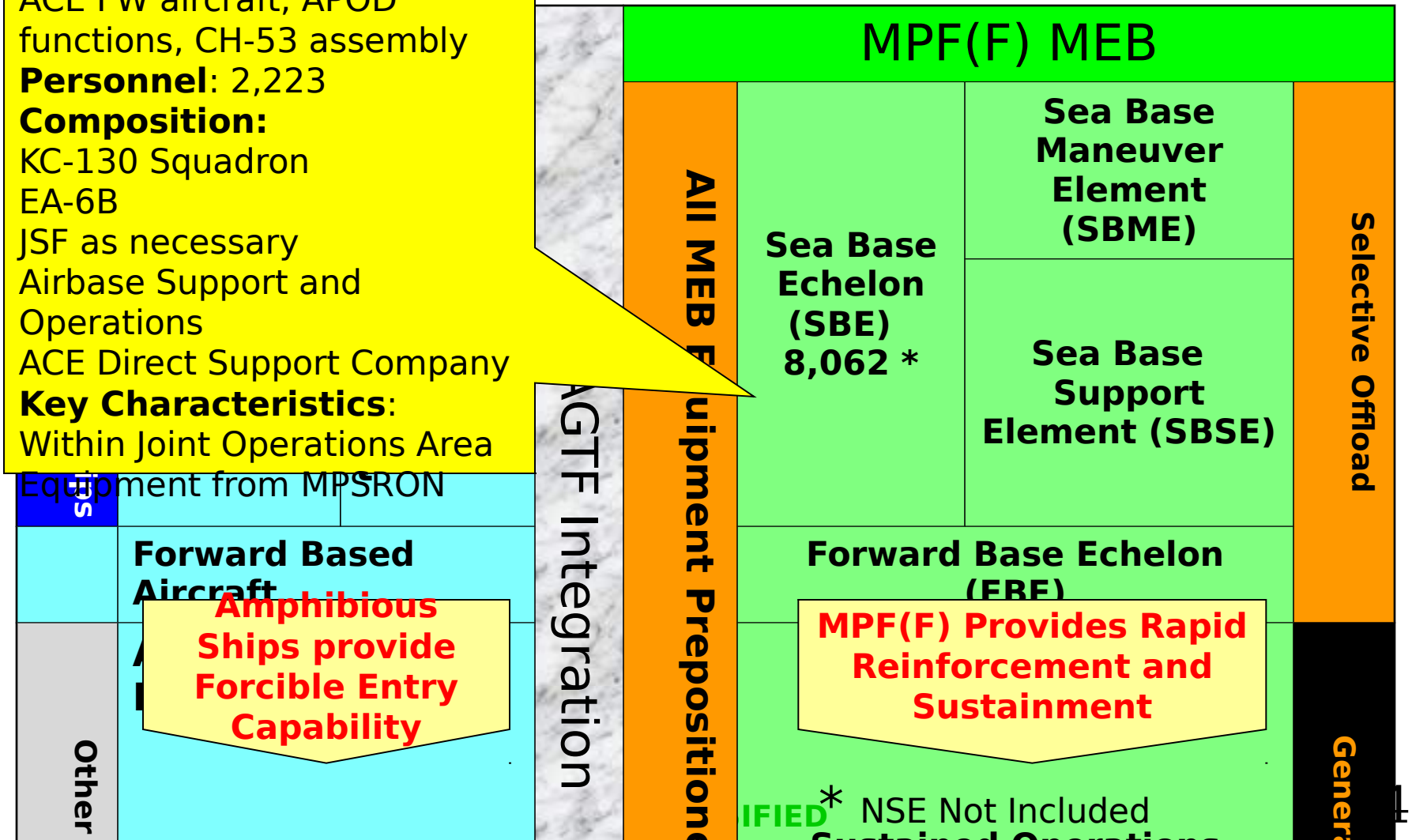
- MEB Command and Control
- Seabased Aviation and Aviation Logistics
- Seabased Logistics and Sustainment



2015 MEB MPF(F) Update

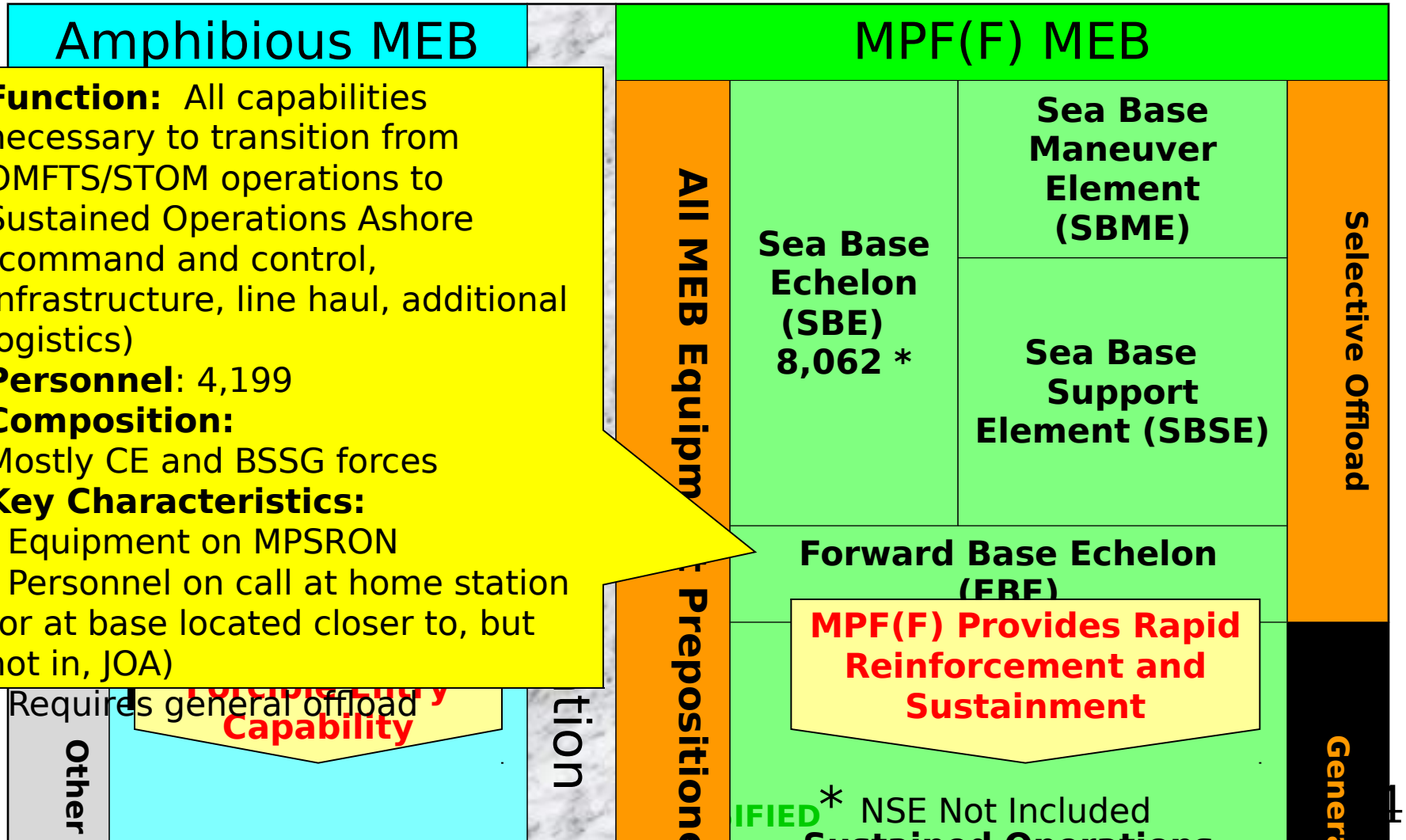
Organization for Deployment and Employment

Function: Basing for MEB ACE FW aircraft, APOD functions, CH-53 assembly
Personnel: 2,223
Composition:
KC-130 Squadron
EA-6B
JSF as necessary
Airbase Support and Operations
ACE Direct Support Company
Key Characteristics:
Within Joint Operations Area
Equipment from MPSRON



2015 MEB MPF(F) Update

Organization for Deployment and Employment


Amphibious MEB
MPF(F) MEB
Function: All capabilities necessary to transition from OMFTS/STOM operations to Sustained Operations Ashore (command and control, infrastructure, line haul, additional logistics)
Personnel: 4,199
Composition:
Mostly CE and BSSG forces
Key Characteristics:
- Equipment on MPSRON
- Personnel on call at home station (or at base located closer to, but not in, JOA)
- Requires general offload
Capability
All MEB Equipm
Prepositione
Sea Base Echelon (SBE) 8,062 *
Sea Base Maneuver Element (SBME)
Sea Base Support Element (SBSE)
Selective Offload
Forward Base Echelon (FBE)
MPF(F) Provides Rapid Reinforcement and Sustainment
Other
tion
Gener
IFIED
* NSE Not Included

Forces Going Ashore

- Vertical*
  - Units
    - 1 – Infantry Battalion
    - 1 – EFSS Battery
    - 2 – Combat Engineer Platoons
  - Equipment/Personnel

Item	Number
PAX	1,040
HMMWV Armed	22
HMMWV Unarmed	80
EFSS	8
ITVs	8

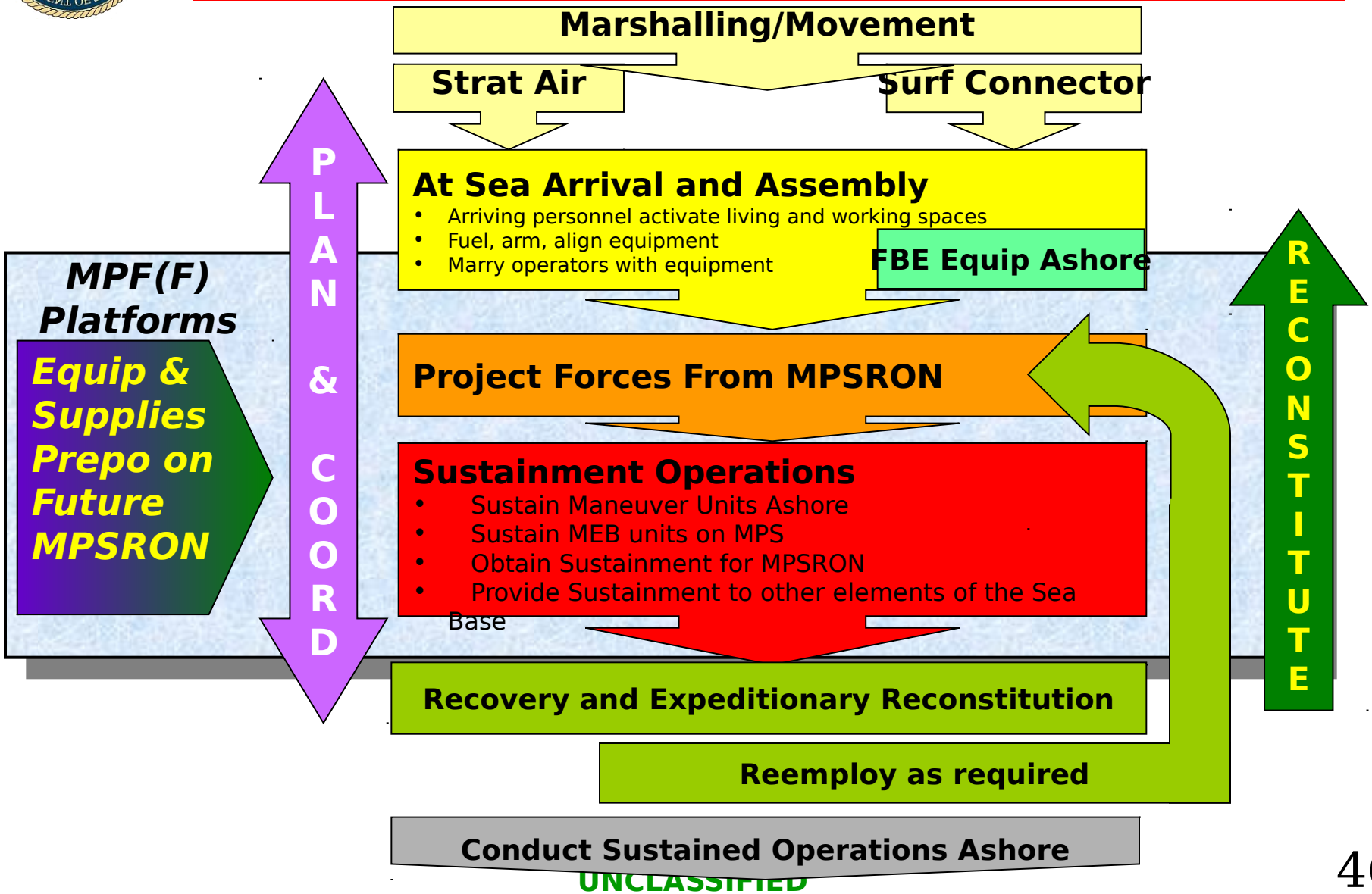
*166 MV-22 equivalent loads

- Surface**
  - Units
    - 1 – Infantry Battalion
    - 1 – Tank Company
    - 1 – LAR Company
    - 1 – LW155 Battery
    - 1 – Combat Engineer Spt Det
  - Equipment/Personnel

Item	Number
PAX	1,544
EFVs	53
Tanks	14
HMMWV Armed	26
HMMWV Unarmed	92
LW155	6
MTVR	34
LAV	28

**55 LCAC equivalent loads

Phases of MPF(F) Operations


Marshalling/Movement
Strat Air
Surf Connector
At Sea Arrival and Assembly
• Arriving personnel activate living and working spaces
• Fuel, arm, align equipment
• Marry operators with equipment
FBE Equip Ashore
MPF(F) Platforms
Equip & Supplies Prepo on Future MPSRON
PLAN & COORD
Project Forces From MPSRON
Sustainment Operations
• Sustain Maneuver Units Ashore
• Sustain MEB units on MPS
• Obtain Sustainment for MPSRON
• Provide Sustainment to other elements of the Sea Base
RECONSTITUTE
Recovery and Expeditionary Reconstitution
Reemploy as required
Conduct Sustained Operations Ashore

Agenda

- MPF/MPF(E)/MPF(F)
- MPF(F) Operational Concept & Capabilities
- MPF(F) and Sea Basing
- What is a MEB?
- **MPF(F) Requirements Matrix**
- Other Interesting Things

MNS – Desired Operational Capabilities

- **Force Closure** – En route arrival and assembly of forces
  - Troop accommodations
  - Shipboard assembly and staging area
  - Aircraft basing
- **ATF Interoperability** – Rapid reinforcement of the ATF assault echelon
  - Air and surface assault craft interface
  - Selective cargo offload capability
- **Sustainment** – Conduct sea-based logistics for Naval forces
  - Selective offload for cube cargo
  - Air and surface resupply of ground combat forces
  - Seabase replenishment (from CLF or commercial shipping)
- **Reconstitution and Redeployment** – In-theater, at-sea
  - Seabase replenishment (from CLF or commercial shipping)
  - Equipment recovery and reconfiguration to support follow-on missions
  - Vehicle and air maintenance facility
- **Other capabilities**:
  - Joint C4I to allow interoperability
  - Medical care consistent with the mission

Assumptions

- ✓ 24 knots sustained speed
- ✓ 12,000 nautical miles range at 20 knots (without refueling)
- ✓ Not Panama Canal constrained
- ✓ Habitability Standards
  - ✓ MSC habitability standards for MSC crew
  - ✓ LHD 8 habitability standards for military
- ✓ External operations in SS-3; onboard functions in SS-5; survival in SS-8 with ship taking best heading under power
- ✓ Replenishment capability via STREAM, VERTREP and skin to skin
- ✓ Cargo – 2015 MEB plus 20 days of sustainment
- ✓ 113 rotary wing/tilt rotor aircraft (includes 10 SH-60 SAR helicopters) per squadron
- ✓ 24-30 launch spots per squadron
- ✓ Vertical & Surface Maneuver elements stowed for selective offload; SOA elements are densely stowed
- ✓ Hangar capacity for 25% of aircraft carried
- ✓ CLF support role only within inherent capability and after MEB needs are met
- ✓ Joint interoperability

MPF(F) EXCOM I Decisions

- Sea State
  - External on/off load operations, threshold/objective SS3/SS4
- Survivability
  - No aviation ordnance stowage/handling or aircraft arming/dearming capability
  - Ammunition stowage/handling for use ashore
  - Designed to Enhanced Commercial Survivability Standard
- Surface Offload Capability
  - Threshold 10 hours, objective 8 hours
- MEU ACE Rotary Wing
  - Not sized to accommodate displaced MEU ACE
- Medical Capability
  - Level II Medical Facility provided

Open MPF(F) Issues

- Distributed or Family of Ships
  - Cost, Throughput, Redundancy
- Surface Interface Point – ILP or Well Deck
- Command and Control (C2) Capability
- Crewing – MSC vs Navy
  - JAG/MSC investigating
  - Pending legislation
- Aircraft maintenance – Intermediate or Organic Only
- Connectors – organic, separately prepositioned, CONUS based
- Industrial Base Considerations
  - Need for multiple yards
  - Construction limits on size of ships

Agenda

- MPF/MPF(E)/MPF(F)
- MPF(F) Operational Concept & Capabilities
- MPF(F) and Sea Basing
- What is a MEB?
- MPF(F) Requirements Matrix
- **Other Interesting Things**

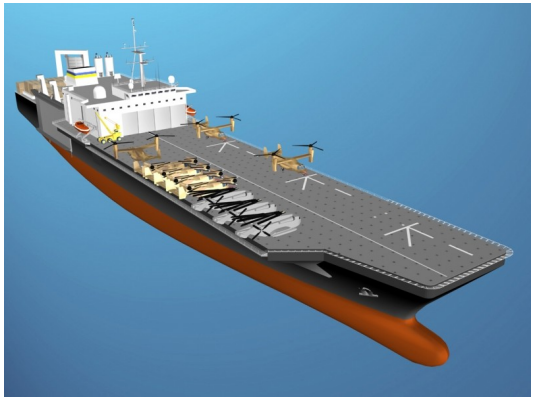
Agenda

- Other Interesting Things
  - **Ship Designs**
  - Research and Development
  - Road Ahead

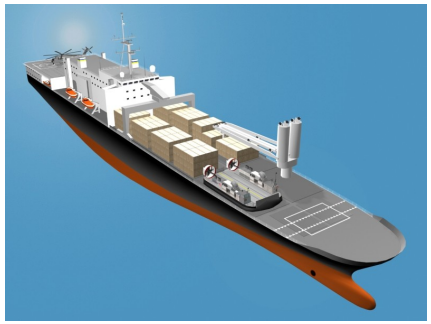
AoA Conceptual Ship Designs

“Large” Distributed capability Ship option

“Small” Distributed Capability Ship option



Family of dissimilar ships option



The Chosen One?

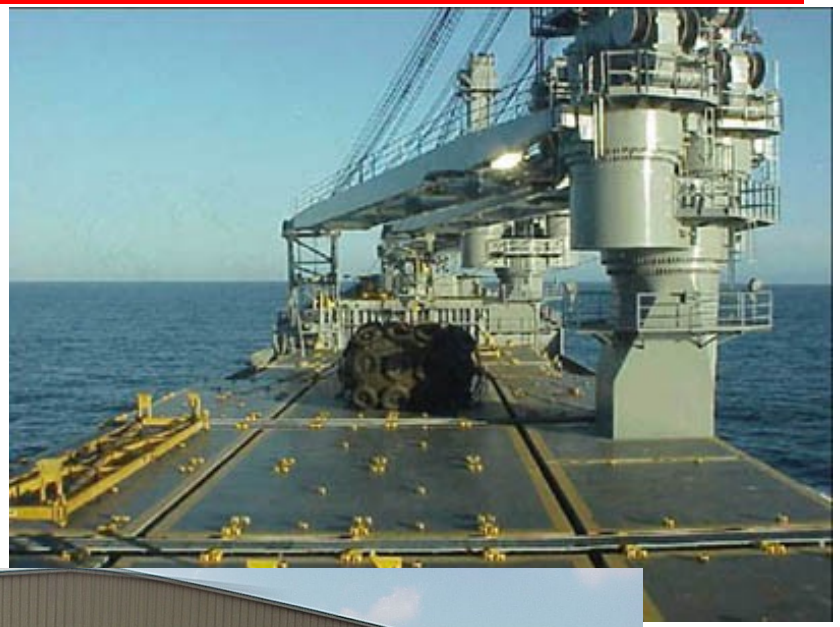
MPF(F) Design Features

- Military Support Features
  - Flight deck & Hangar for multiple aircraft
  - Aircraft maintenance space
  - RAS & FAS (heavy lift UNREP)
  - VERTREP
  - Enhanced Damage Control & Fire Fighting systems
  - AT/FP
  - Signature reduction
- Vehicle facilities
  - Extensive RO/RO area (commercial)
  - Vehicle Maintenance bays (military)
- Multi- Product Cargo
  - Pallet stowage with specific offload (military)
  - TEU stowage (commercial)
  - Heavy lift cranes (comm'l)
  - Breakout & assembly areas (military)
  - Transfer & staging areas
  - Ammo & Aircraft Elevators
- Habitability
  - MSC, NSE, MEB (mix of commercial & military standards)

Agenda

- Other Interesting Things
  - Ship Designs
  - **Research and Development**
  - Road Ahead

Crane ATD



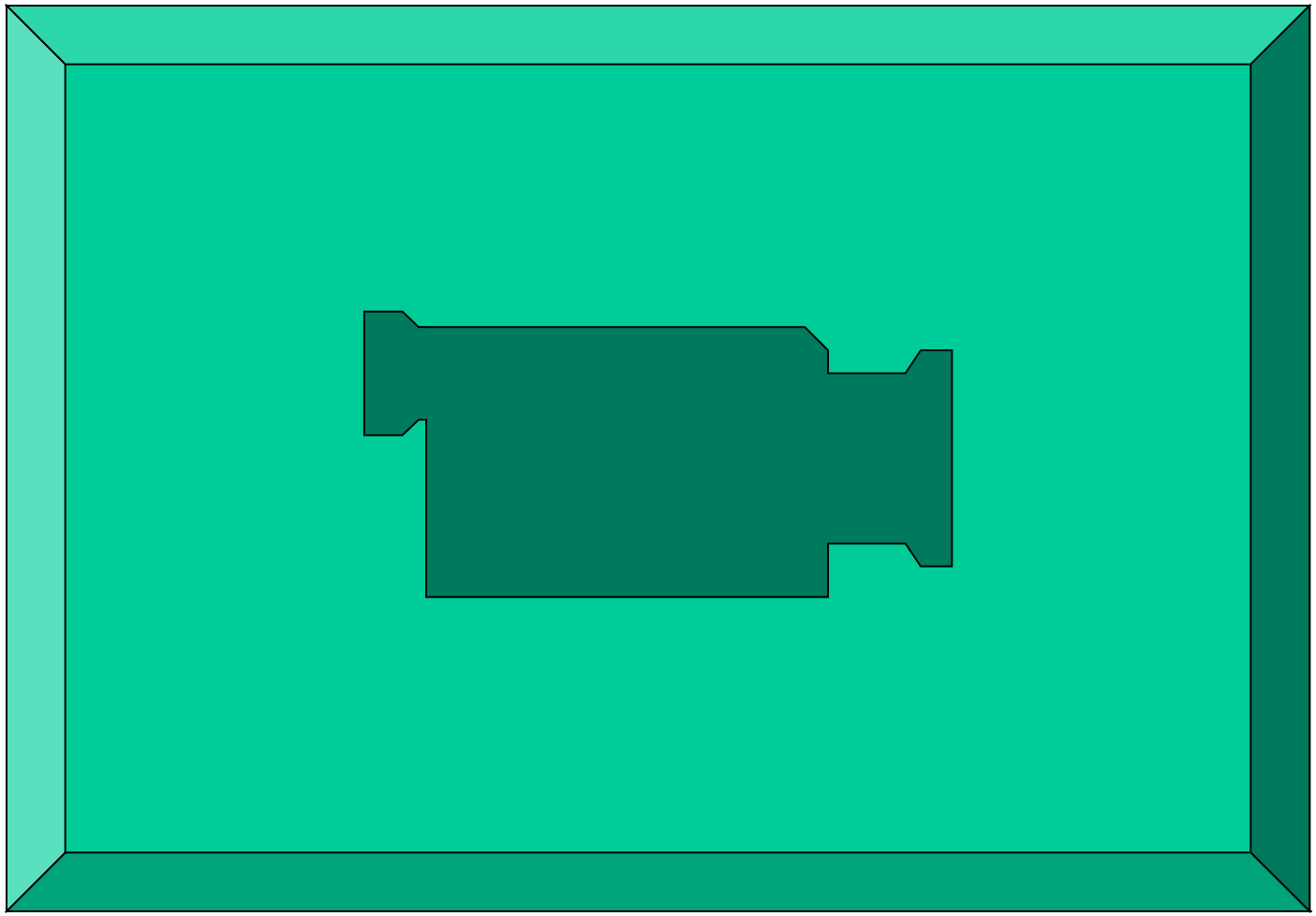
Motion Compensated Cranes & Roll Stabilization Tank

Alongside Cargo Transfer

Skin - To - Skin

Ship Created Lee

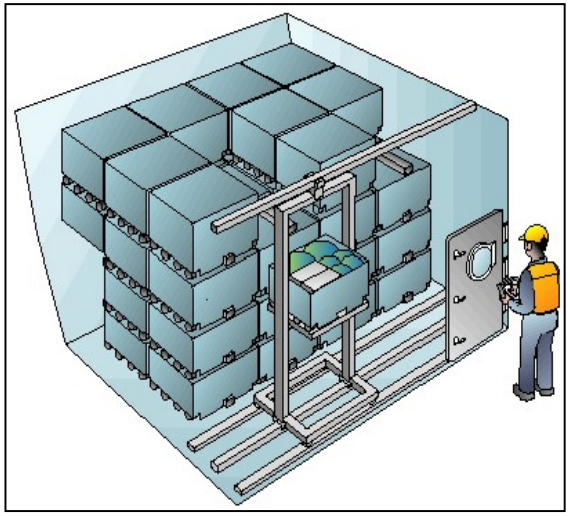
Integrated Landing Platform (ILP



Underway Container Transfer

Seabase Capabilities

Shipboard Elevators



Automated Warehousir

At-sea arrival & assembly

SS3 Crane ATD

Small Craft Interface

Underway Replenishm

Agenda

- Other Interesting Things
  - Ship Designs
  - Research and Development
  - **Road Ahead**

The Road Ahead

- Big 12 Meeting may be series of meetings during Oct 04
- ASN, RDA hosted EXCOM II to be held in Nov 2004.

Questions ?

MPF(F) Requirements Matrix

Per MNS: (high level)

- Force Closure: Combining the capacity and endurance of sealift with the enhanced speed and flexibility of airlift, marry up forces and equipment in a forward area.
- Amphibious Task Force Interoperability: Ability to reinforce the assault echelon, provide maintenance support to ATF aircraft, surface assault craft, and advanced amphibious assault vehicles.
- Sustainment: Ability to receive, store, maintain and deploy equipment and supplies. Provide for the selective offload and transfer of supplies.
- Reconstitution and Redeployment: Ability to retrieve rehabilitate, store and redeploy assets.

MPF(F) Requirements (Cont)

- **From draft requirements matrix**:
  - Interoperable w/ Blount Island, CLF, ESG, CSG & connectors
  - Transit and operate in open ocean
    - Embark/Disembark in SS 3, Transfer supplies in SS 5
  - Lift and sustain 2015 MEB T/E
  - Host MSC Crew, Military Dets and embarked troops
  - Launch, recover and maintain RW & TW ACE
  - Launch, recover and maintain OTH lighterage
  - Load, transfer, recover and maintain MEB EQPT & Supplies
  - Generate, store & transfer potable water
  - Store & transfer POLs
  - Ability to support secondary missions (C2V, MCS, MED, SOF)
  - 40 year service life

MPF(F) Requirements Summary

General	- Size and composition: Baseline 2015 MEB
Force Closure	- Personnel arrive in theater via strategic airlift - Intra-theater transfer to ships - Accommodates Seabased Echelon (SBE) (8,062) - Facilitates arrival and assembly afloat - Facilitates establishment of Forward Base Echelon (FBE) - Prepares each arriving unit within 24 hours of arrival - Projects 1 surface and 1 vertical reinforced battalion within 10 hours
ATF Interoperability	- Contains MEB C2 suite - Possesses HDC, precision/non-precision approach capability
Sustainment	- Able to maintain all SBME and SBSE equipment afloat - O level/FISP for embarked aircraft / I level for MEB ACE - Contains 20 days of sustainment prepositioned - Enables continuous resupply afloat
Rehabilitation, Reemployment, & Redeploymen	- Recover 1 Maneuver Element to Seabase in 24-48 hours - Reconstitute 1 Maneuver Element afloat within 48 hours - Reconstitute all 3 Maneuver Elements afloat

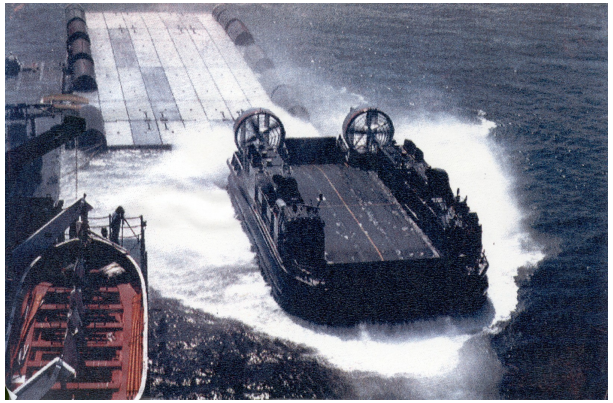
Key MPF(F) Issues

- Survivability Level
- ILP vs Well Deck and Concurrent Designs (Surface Interface Point(SIP))
- Growth of Load
- Crewing vs. Forcible Entry
- Heavy Lift Aircraft Accommodation
- Medical Capability (Level II vs III)
- Shipyard Competition
- C4I - How Much Joint interface?

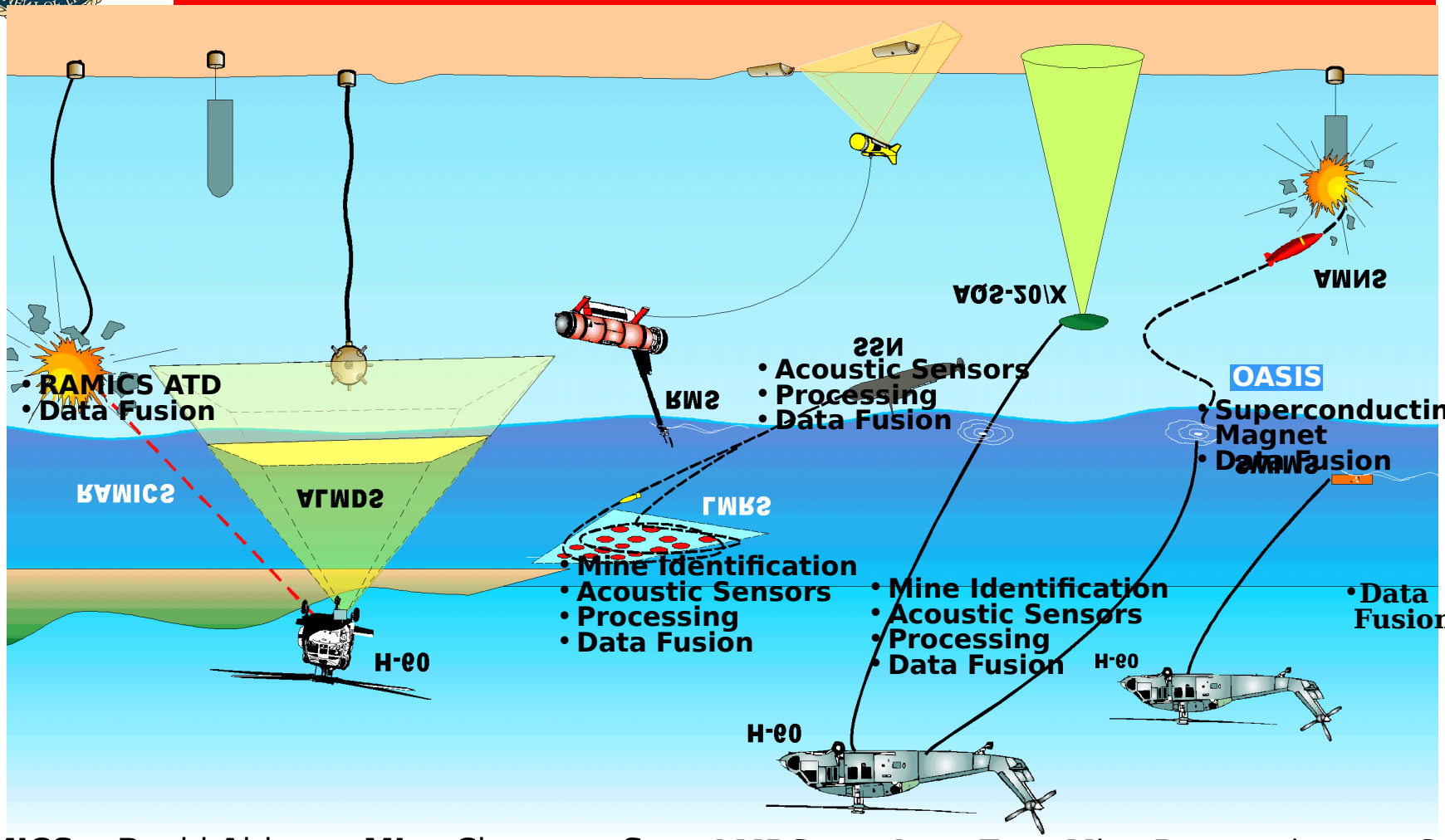
Marry Forces with Equipment at Sea

Small Craft Interface

HMAS JERVIS BAY ALONGSIDE HMAS SUCCESS BEING REFUELED IN DILI HARBOUR BEFORE HER RETURN TO DARWIN
PHOTO BY ABPH PHILLIP HUNT NEG NO. NPU 991030-18



Developmental Organic MCM Systems

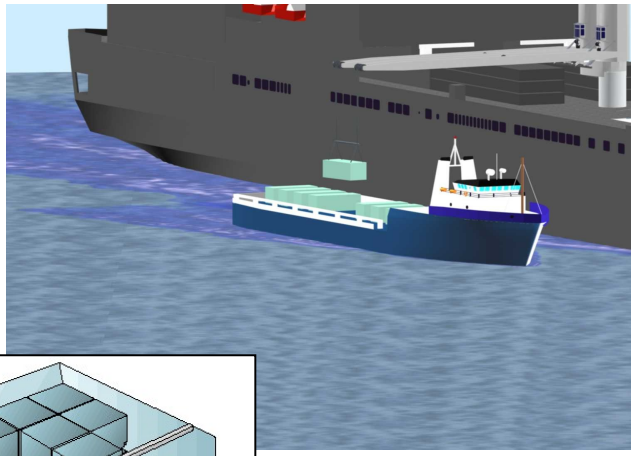


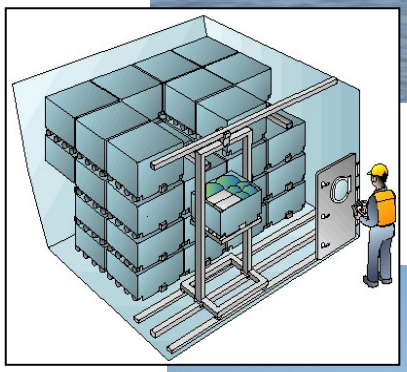
RAMICS: **R**apid **A**irborne **MI**ne **C**learance **S**ys
ALMDS: **A**irborne **L**aser **M**ine **D**etection **S**ys
RMS: **R**emote **M**inehunting **S**ys
LMRS: **L**ong-Term **M**ine **R**econnaissance **S**ys
OASIS: **O**rg. **A**irborne/**S**hip **I**nfluence **S**weep
AMNS: **A**irborne **M**ine **N**eutralization **S**ys

Small Craft Interface – LCAC

MPF(F) R&D Challenges

1. **Seabase Replenishment**
   - UNREP and VERTREP capable
   - Alongside transfer of containers from boats possible today
   - RDT&E to demonstrate containers transfer from ships in higher seastates
2. **Selective Offload Capability**
   - Operator experimentation feedback
   - Automated stowage technology could reduce MPF(F) volume requirements
   - Allows reconstitution and redeployment
3. **Surface Interface Point (SIP)**
   - RO/RO cargo handling to LCAC, LCU, and HSV is essential
   - Improved capability requires accelerated RDT&E
4. **Joint Heavy Lift Aircraft Compatibility/Operability**





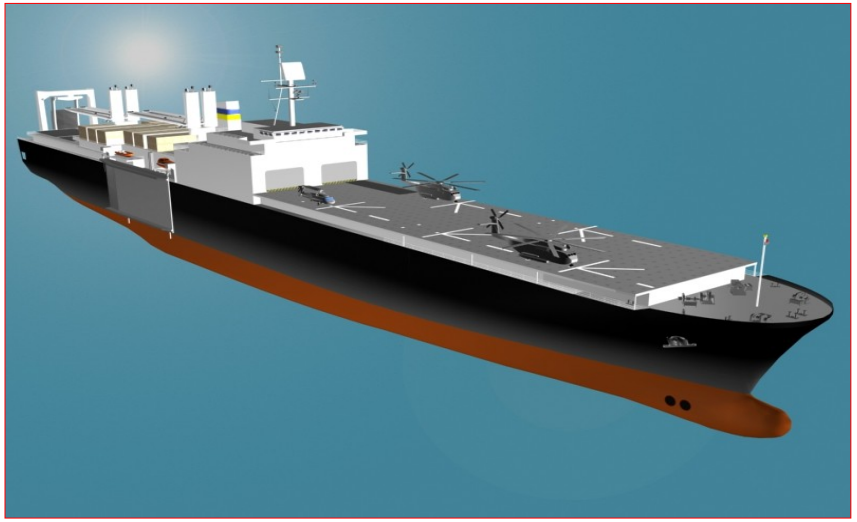
Amphibs & MPF(F)

Different but complementary capabilities

Amphibious Ships

Forward Presence (Apples)

MPF(F)



Operational Support (Pears)

Amphibs and MPF(F)
"Complementary, not Redundant"

Amphib Ships

- **Optimized for forcible entry**
- **Manned by USN personnel**
- **Land forces for extended operations ashore / limited seabasing capability**
- **Navy DC/FF & ability to fight hurt**
- **Naval Construction**
- **Combat loaded**
- **Combat systems**
- **Aviation configured**
- **Forces embarked for long duration**
- **Limited seabased maintenance/ supply/medical capabilities**

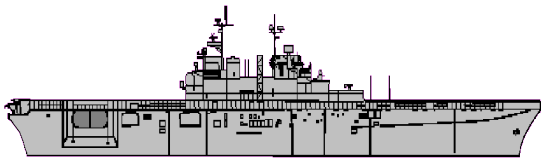
MPF(F)

- **Optimized for rapid reinforcement**
- **Manned by Civilian Mariners w/ MIL DET as required**
- **Project forces ashore, support from seabase**
- **Commercial DC/FF – Retreats if damaged**
- **Commercial Construction**
- **Selective offload**
- **No combat systems**
- **Aviation capable**
- **Forces embarked for short duration**
- **Provides seabased maintenance/ supply/medical capabilities**

Amphibs + MPF(F) = very capable, sustainable force able to support itself from seabase for extended periods

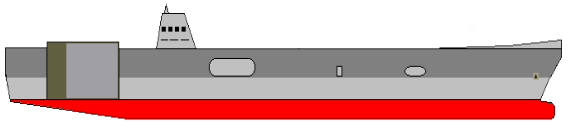
Future ESG – MEB Integration

ESG

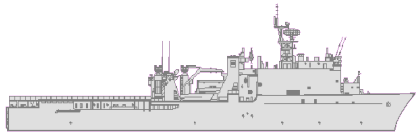


LHD

or



LHA(R)



LSD

LPD

MPG

ESG Support Ship

2013+

+ HSCs

7X